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THE
ARCHITECT
AND CONTRACT REPORTER.
A JOURNAL OF ART, CIVIL ENGINEERING & BUILDING.

THE WEEK.

THE Graduates Memorial Building, which is seen in the view of the principal square of Trinity College, Dublin (on page 8), has given rise to an interesting case relating to the liability of a sub-contractor. Messrs. SHARPE & EMERY, of Dublin, were sued by Mr. RYAN, a plasterer, for a balance unpaid of 322*l.* 13*s.* 8*d.* for work executed in the buildings. The claim was disputed by the defendants on the ground that the work was not done in a satisfactory or workmanlike manner, or to the satisfaction of Sir THOMAS DREW, the architect, as required by the contract, and that they had been required to re-execute some of the work through plaintiff's default. For this they counter-claimed for 1,000*l.* The case was heard before the Lord Chief Baron in June, and the following questions were submitted to the jury:—1. Was the work done to the satisfaction of the architect, Sir THOMAS DREW? No answer; the jury disagreed. 2. Was it done to the satisfaction of the defendants? Answer, "Yes." 3. Was it done in a workmanlike and satisfactory manner? Answer, "Yes." 4. Was the term of architect's satisfaction waived by defendants? Answer, "Yes." Upon these findings the jury found for the plaintiff for 220*l.* 6*s.* 10*d.* in the original action. The Lord Chief Baron, on that result, gave liberty to both parties to move for judgment. When the case came on last week a communication by his lordship was read to the effect that judgment must be entered for the defendants, and also that judgment be entered for them on the counter-claim with costs. The damages (if any) claimed could only be nominal. Mr. Justice BOYD concurred, and said the work was not done to the satisfaction of the architect or the defendants. The finding of the jury was not supported by the evidence and should be set aside. Mr. Justice KENNY took the same view. The work was to be performed to the satisfaction of the architect, the defendants and their foreman. The original contract with the plaintiff amounted to 1,450*l.* 18*s.* Evidently he imagined he was not bound to satisfy the architect, and the jury seemed by their indefinite finding to take that view. The case demonstrates that such approval should be made a condition precedent in any documents or agreement relating to the work to be done by a sub contractor.

IT would be out of place to compare the merits of EDWARD A. FREEMAN and JOHN RICHARD GREEN as historians, but many who claimed to know the qualities of both used to consider some of the essays in the *Saturday Review* by the younger writer as unmistakably the work of the elder. The publication of a second volume of GREEN's "Stray Studies" (MACMILLAN & Co.) will reveal how easy it is to fall into error when identifying anonymous articles. Both men had similar ideas about history, and especially in relation to England; both endeavoured to transpose themselves in order to endeavour to feel as citizens of a past age and foreign country, and both did not altogether trust to books or manuscripts. But no book of FREEMAN's contains so many of the qualities which gain popularity as the "Short History of the English People." In the "Stray Studies" we see the alertness of GREEN's mind in summoning historical associations whenever he visits a district, town or building. As he looks on the Seine from a window of the ruined Château-Gaillard, he recalls how from it "ROGER DE LACY may have watched the long year through for succours that never came." But it is also pointed out that the fall of the castle under JOHN was the downfall of a system:—"From that dark donjon, from those broken walls we see not merely the pleasant vale of the Seine, but the sedgy flats of our own Runnymede." In a like spirit Mr. GREEN wrote about Troyes, Como, Rochester and other places. There are several other essays in the volume which are historical. Some, too, are social, and some would be called literary. They are memorials of an excellent scholar who, in spite of delicate health, was able to render many services to his generation.

A REPORT which has been prepared by Professor PETERSEN on the "Ara Pacis Augustæ" in Rome reveals the enormous extent of the work proposed to be undertaken. If means are forthcoming the digging which has been accomplished is superficial if compared with what remains to be done. It is expected that not only the altar, but the part immediately surrounding it can be laid bare. At present the difficulty is to know where and how the great memorial of peace was terminated. To ascertain its extent and the nature of the extremities it will be necessary to extend the work in various directions. It is not apparent how this can be done unless by lateral boring, for there are buildings and streets covering a part of the site of the great structure. Although the investigation can be considered as no more than partial, the remains of architecture and decoration met with are enough to suggest that the memorial was probably the noblest work in Rome.

A STEAMER has lately arrived in Hamburg conveying some valuable examples of architectural details and sculpture which are intended for the Pergamon Museum in Berlin. They are a present from the Sultan to the Emperor of GERMANY, and are sent in recognition of the efforts of German explorers in many parts of the Turkish dominions. They were taken from a palace which stood on the route from Damascus to Mecca, and which for many centuries has been in ruins. It is supposed to have belonged to the Persian king CHOSROËS II., who reigned from A.D. 590 to 628. Whether he was a Christian is uncertain, but his wife was one, and the affection between them has inspired many Persian poets. The palace at Mashita is illustrated by some woodcuts from photographs, a restoration, and a plan in FERGUSSON's first volume. He presumes it was intended as a hunting-box on the edge of the desert. The surface decoration is exquisite. The legends surviving about the splendour of the palaces of CHOSROËS are almost incredible. Greek artists were invited to assist the native sculptors. Although he was a great warrior he had a love for the arts, and there was a refined luxury worthy of the Arabian Nights. But eventually he fell a victim to conspiracy and succumbed to the tortures inflicted on him after a reign of thirty-seven years. The examples will form a new attraction for the Berlin Museum, for they suggest the perfection to which Sassanian surface ornament attained, and that the sculptors were as facile in operating on stone as the painters in adorning tiles.

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ARCHITECTURE IN 1903.

IN architecture, as in other phases of our national life, the dominant feature of the past year has been a quiet and determined settling down to grapple with adverse conditions, characteristic of the bull-dog tenacity that marks our race. Like a huntsman with a stiff bit of country to negotiate, we have dropped our hands, tightened our knee-grip and settled down in our seats to a hard and careful ride. With the racial instinct inherited from our Viking ancestors we have taken a reef in our hopes and aspirations, flattened our sheets and made ready for a steady thrash to windward.

We recognise that our manufacturing supremacy is no longer pre-eminent, that our commerce is subjected to keen competition, that the tide of wealth flowing into the country from South African gold and diamonds has slackened.

On the business side of architecture matters have been dull, but not stagnant. With a few exceptions, the offices of our architects have been adapted to a quiet but steady activity; fortunes are being made by a very small minority, but from few is withheld a modest living.

In the building trade a like condition seems to prevail. There is that sufficient but not extreme superabundance of labour which is so desirable from a master's point of view. It is no longer necessary to engage all and sundry. The employer can select the competent and industrious workman and ignore the shirker and the bungler. They who would "ca' canny" may now ca' off the job. This makes for better workmanship, for more diligence and for less cost. Prices are now lower than they have been for many a year, and thus the cost of building is being gradually brought nearer to the point at which capital can find useful employment in bricks and mortar. The dearness of money is at present, however, far too great to warrant any hope that a boom in building is at all likely in the near future.

And in this connection our municipal authorities, and particularly the London County Council, have received a sharp check. The extremely low value of gilt-edged securities is in the opinion of our financial experts due largely, if not entirely, to the lavish, not to say extravagant, expenditure of our local governing bodies, foremost amongst whom must be placed the London County Council, not only by reason of their own profligacy, but from the example and assistance they have given to other bodies in depleting the national exchequer.

Nor is it only in their lordly schemes of finance that our metropolitan magnates have received a much needed lesson. The dictatorial interference of the London County Council with private enterprise has been given pause. The spectacle of a magnificent property like the Lyceum Theatre ruined by the ignorance and vacillation of themselves and their *employés* may have troubled little the conscience of our dictators, but the lesson of the intolerable harshness of their treatment has been brought home by the absolute failure of their attempt to enlist the co-operation of capital in the development of the Strand to Holborn improvement. It may be a matter of complete indifference to the Council that the theatrical managers of London should feel themselves ever under the shadow of a rumbling volcano, whose sudden activity may at any moment bring the lava streams of unreasonable requisitions to engulf them and their property in hopeless ruin. Those who cater for the amusement of the public are not in the least disposed to cavil at reasonable and determinate safeguards for the safety of their customers. The trouble is that there is no finality to the expenditure that the whim of a committee or the incompetence of their staff may at any time impose. A theatrical proprietor may lay out thousands of pounds in alterations at the dictation of the Council, but it by no means follows that such dictation is guided by knowledge or sound judgment, nor that the expenditure may not be repeated or doubled in twelve months' time. To such an extent has become evident the inability of the Council and its officers to determine what in any particular instance is necessary for the safety of the public, that a number of those architects who are experts in theatre design have seriously discussed the advisability of addressing an open letter to the Council, intimating to the public that they and their clients will refuse to submit plans for approval until some more competent authority is established.

The fact of the matter is that the members of the Council have not the technical knowledge, and their staff has not the practical experience, necessary for the formation of a correct judgment. True, the Council has an able official in their superintending architect, but, overloaded with the amount of work represented by a staff of some 300 *employés*, it is manifestly beyond the power of any one man to give due consideration to the many questions of detail that come within the cognisance of his department. Approval of plans by the London County Council means, in practice, that the Council relegates the consideration to a committee, the committee to the architect, the architect to an irresponsible subordinate, whose competency may be measured by the utterly inadequate salary which he receives for the importance of the interests of which he is the virtual arbiter. The architectural staff of the London County Council is enervated by the absurd trades-unionist idea that one man is as good as another, and that, as has been said in open debate by a member of the Council, no man is worth more than 300*l.* a year. Young men of ability are occasionally to be found on the staff of the Council, but when experience and sound judgment are in course of time added to ability, their prospects in the Council employ are not sufficient to keep them there. Mr. JOHN BURNS, and those who think with him, may as well recognise from the lessons of the past year that even in these dull times any young man of ability and industry can easily (as an architect) earn more than 300*l.* a year, with far more enjoyment and far more enticing prospects than in the Council's office, and that their starvation of the quality of their staff is the real cause of the immense loss to the ratepayers of London involved in the delayed recoupment from the Strand to Holborn improvement. It is not only in theatrical enterprise that the incompetence and vacillation of the London County Council is manifest. The same deterrents operate in all building enterprise, and no architect of experience will to-day advise his client to put himself under the heel of the Council or submit, save under the direst necessity, to the sole arbitrament of the Council's architect or other official.

The parsimony of local authorities in the payment of their technical staffs is, throughout the country, a standing menace to the health and to the enterprise of the public. Underpaid inspectors and surveyors are numbered by hundreds, with the inevitable result of incompetency, bribery and corruption, for one case of which brought to light, as in the city of Westminster during the past year, scores are never revealed. We know of districts in the provinces where building enterprise with its accompanying increase of rateable value is absolutely stifled by the incompetency of the local officials to form a rational judgment in technical matters. Let our governing bodies of every kind throughout the country realise that competent technical and professional men cannot be obtained without adequate salaries, and that incompetence in their staff means enormous loss to the ratepayers. As an example, if the London County Council were to appoint half a dozen competent assistant architects at 1,000*l.* to 1,500*l.* a year to relieve the overburdened shoulders of their superintending architect, the ratepayers of London would benefit enormously by the increase of building enterprise that would follow the confidence of equitable treatment, not only in the development of the Council's property, but in many other directions.

LIVERPOOL CATHEDRAL.

On the artistic side of architecture the event of the year has been the selection of the design by Mr. GEORGE GILBERT SCOTT, grandson of the late Sir GILBERT SCOTT, for the new Liverpool Cathedral, a design marked by originality of conception and Mediævalism of thought. An English twentieth-century cathedral does not necessarily imply a Protestant preaching hall. Something must be granted to the idea of a cathedral being a thing to look at, a visual symbolical embodiment of the position of the Church of England in our national life, older than the Parliament, older than the Crown, and preserving features of our national thought older even than Christianity itself. To object, as some have done, to the design because it does not follow the present fashion of Renaissance forms of detail, or the latest Byzantine fad, is narrow-minded. We hold that every artist is free to express his thought in that dialect of art which he feels enables him most clearly to convey his meaning, whether it be Classic or Gothic, Pagan or Christian, Renaissance or *l'art nouveau*. The thought is the root of the matter, not the adherence to the fashionable *argot* of the hour. If an architect in designing a cathedral feels that the expression of such a building should be to day what it was centuries ago, what wonder that Mediævalism of thought is reflected by him in his work of to-day?

As a competition, that for the Liverpool Cathedral has been marked by many faults of management and conduct, and by many undesirable features. The promoters have, in fact, followed the national tendency to "muddle through" important concerns, but at least we may be confident that the new Liverpool Cathedral will be an impressive architectural work, and the creation of artistic genius.

The next most important open competition of the year was that for the Municipal Buildings, Kingston-upon-Hull, the first place in which was awarded by the assessor, Mr. John Belcher, A.R.A., to the joint production of Mr. S. B. Russell, Messrs. Cooper & Davis and Mr. C. E. Mallows; the second to Messrs. Treadwell & Martin; and the third to Mr. A. Bramwell Thomas. Notwithstanding the importance of the building, only thirty-two designs were submitted, the complexity of the problem being probably the stumbling-block to many possible competitors.

The Technical Schools and Free Library, Ramsgate, enticed seventy two competitors, of whom Mr. S. D. Adshead was by the assessor, Mr. H. T. Hare, placed first; Messrs. Cooper & Davis second, and Mr. R. Holt third. For the Technical School, Chorley, Mr. J. Smith, of Blackburn, was the successful competitor; Messrs. Woodhouse & Willoughby were second, and Messrs. Briggs & Wolstenholme third. The competition for the Victoria Memorial, Allahabad, was won by Mr. R. F. Sherar, of Edinburgh.

Free libraries are still a fashionable form of municipal and private philanthropy, and consequently a frequent object of architectural competition. Amongst these the competition for the Carnegie Free Library, Lowestoft, resulted in the success of Mr. G. W. Leighton, of Ipswich, Messrs. Geo. Barnes & Son being second. In that for the Free Library, Workington, Mr. Sidney R. J. Smith was the assessor, and awarded the first premium to Messrs. W. A. Mellon & G. Wittet, the second to Messrs. S. W. Grant & J. O. Bowden, and the third to Messrs. A. Cox & F. D. Clapham, highly commending also the designs by Messrs. Wills & Anderson, Mr. H. A. Crouch and Messrs. Hennell & Son. For the Free Library and Technical School, Chadderton, Messrs. A. R. Groome & J. L. Grant were placed first, Messrs. Woodhouse & Willoughby second, and Mr. R. Holt third, the assessor being Mr. A. N. Bromley. For the important building of the Central Library, Hammersmith, Mr. H. T. Hare was successful in a limited competition, the other competitors being Mr. Maurice B. Adams, Mr. J. H. Richardson, Mr. G. Sedger, Mr. S. R. J. Smith and Mr. E. W. Wimperis.

For District Council Offices, Pontypridd, fifty-five designs were sent in, and the assessor, Mr. J. S. Gibson, placed those of Mr. H. T. Hare first, Mr. S. D. Adshead second, and Mr. A. C. Little third. In a competition for New Schools, Whitley, the designs of Mr. W. H. Knowles were placed first; those of Messrs. Cackett & Burns-Dick, second; Mr. S. Wilkinson, third; Messrs. Armstrong & Wright, fourth. For the Queen Victoria Memorial, Rochdale, Messrs. Woodhouse & Willoughby were first; Mr. Jesse Horsfall, second; and Messrs. Butterworth & Duncan, third. For Free Library, Montrose, Mr. J. Lindsay Grant was successful.

A remarkable competition was that for Free Library, Castleford, a small building for which 124 designs were submitted, so that the architect's commission for the job, if divided amongst the competitors, would have given them a sovereign each. The valuable prize was won by Mr. G. H. V. Cale, and the second premium by Mr. W. Bakewell. A competition with unsatisfactory conditions was that for a Town Hall, Sutton Coldfield. This, however, found some competitors, of whom Messrs. Mayston & Eddison were placed first, whilst the second and third places were awarded to Mr. H. A. Hall and Mr. W. F. Edwards respectively. The competition for the Town Hall, Chepping Wycombe, is memorable for the good effect resulting from the spirited protest made by the President of the Royal Institute of British Architects and the Competition Reform Society against the original unsatisfactory conditions. These were amended, and in the result the designs of Messrs. J. J. Bateman, C. E. Bateman & A. Hale were placed first; those of "F. H.," of Chelsea, second; of Mr. J. E. Forbes, third, and Messrs. Wills & Anderson, fourth. The competition for new buildings for the University of the Cape of Good Hope elicited sixty-two designs, and Mr. Aston Webb, P.R.I.B.A., the assessor, awarded the first place to Mr. W. Hawke, the second to Mr. J. E Forbes, and the third to Messrs. Wimperis & East. The competition for New Hospital, Quay Street, Manchester, resulted thus:—First premiated design, Messrs. Thos. Worthington & Son; second, Messrs. C. K. & T. C. Mayor; third, Messrs. Mee & Hooley.

The popularity of competitions for free libraries was once again shown in that for a Public Library, Fenton, for which eighty-nine designs were submitted, and the assessor, Mr. Ernest George, placed Messrs. Short & Penty first and Mr. J. S. Stout second. For an Infectious Diseases Hospital, Chelmsford, the first premiated design was that of Messrs. Pye & Bacon, and the second that of Mr. J. H. Goodman. For the Queen Victoria High School, Stockton-on-Tees, the first premium in the competition was awarded to Mr. Felix Clay, the second to Mr. S. Wilkinson and the third to Messrs. Clark & Moscrop. The competition for Technical School, Blackpool, was won by Messrs. Potts, Son & Hennings, the second place being awarded to Messrs. Cheers & Smith and the third to Messrs. Simon & Crawford. For Children's Home, Croydon, the successful design was submitted by Mr. J. H. Smith and the second premiated by Messrs. Wills & Anderson; whilst for two Relief Stations, Croydon, Messrs. Wills & Anderson were more fortunate, and obtained the first premium. Another library competition brought out no less than eighty-one designs, that for the Carnegie Free Library, Taunton, and the assessor, Mr. J. S Gibson, awarded the premiums as follows:—First, Mr. A. C. Little; second, Mr. J. Lindsay Grant; third, Mr. H. A. Crouch. The number of designs for Free Library, Maidenhead, was even greater, no less than eighty-six being submitted, from which Mr. E. W. Mountford, the assessor, selected as first those of Messrs. Blangy & Van Baars; second, Messrs. McKewan & Cale, and third, Messrs. North & Robin. For the Carnegie Free Library and Museum, Limerick, Mr. Ashlin, the assessor, placed first the design of Mr. G. F. Beckett, and second that of Mr. G. P. Sheridan; but the trustees decided to adopt for execution the second premiated design. A competition for the University College of South Wales and Monmouthshire was limited to four architects, Mr. W. D. Caröe, Mr. Basil Champneys, Mr. John Belcher and Mr. W. C. Marshall, and of the designs submitted that of Mr. Caröe was placed first by the assessor, Sir Rowand Anderson. The competition for an important block of buildings for Baths and Offices, St. George's Dock site, Liverpool, after giving immense trouble and expense to a number of competitors, resulted unsatisfactorily, none of the designs being selected, and a further competition was opened for the baths alone, which was won by Mr. A. Saxon Snell. In the competition for Free Library, Heywood, the first premium was awarded to Messrs. North & Robin, the second to Mr. David Bird, and the third to Mr. R. J. McBeath, whilst in that for Public Library, Mansfield, Mr. E. R. Sutton was placed first, and Mr. Goodacre second. For Bromley Public Library, with fifty competitors, Messrs. Squire, Myers & Petch obtained the first premium, and the second was divided between Mr. C. H. Norton and Mr. A. F. M'G. Milligan. For the Public Offices and Town Hall, Acton, Mr. W. G. Hunt was awarded first place by the assessor, Mr. J. Macvicar Anderson. The successful competitors for

Free Library and Town Hall, Rawtenstall, were Messrs. Crouch, Butler & Savage; the second premium was divided between Mr. A. T. Butler and Messrs. Stones & Stones, and the third between Mr. E. J. William and Mr. A. S. Dixon. In the limited competition for the Town Hall, Stockport, in which Mr. T. E. Collcutt was the assessor, the design of Mr. A. Bramwell Thomas was placed first, and that of Messrs. Willoughby & Langham second. For the County School, Acton, in a competition limited to Mr. H. W. Pratt, Mr. Maurice B. Adams, Mr. Pywell, Mr. Felix Clay, Mr. A. H. Tiltman, Mr. Osborne Smith and Messrs. Giles, Gough & Trollope, the first premium has been awarded to Mr. Tiltman, the second to Mr. Pywell, and the third to Messrs. Giles, Gough & Trollope. In an open competition for Women's Hospital, Brighton, the assessor, Mr. G. T. Hine, has placed Mr. J. L. Denman first, Mr. E. P. Howard second, and coupled as equal for third place Mr. T. F. Pennington and Messrs. J. S. Quilter & F. Anderson, a decision which, we hear, has given some dissatisfaction to many competitors. For a large Board School, Clarksfield, Oldham, the design of Messrs. Cheers & Smith has been placed first, and that of Messrs. Woodhouse & Willoughby second.

We may close our review of the competitions of the past year with the record of yet another remarkable instance—that for a Free Library, Tamworth, in which 163 competitors wasted their time over a small job. In this case the first place was awarded to Mr. E. R. Danford, the second to Messrs. H. T. Buckland & E. H. Farmer, and the third to Messrs. Hodge & Haswell. These small library competitions evidently possess a great attraction for a large number of young men who find amusement, let us hope, in preparing designs for an apparently simple type of building. The simplicity is only apparent; for whilst the general idea of a free library is easily grasped, only an expert is aware of the number of debatable points that must be settled and the highly specialised knowledge that is required in the production of, we will not say a perfect library plan, but even of a tolerably workable one.

Whilst the competition list gives some indication of the number and character of new buildings commenced by public bodies, it does not embrace more than a small proportion even of these, and still less is it a reflex of the amount of work started for private individuals or speculators. Though there is undoubtedly less of this at present than there has been in some recently passed years, there is still a fair amount of activity. The Savoy Hotel extension in London is but a sample of many other costly schemes both in the Metropolis and in the provinces. If the London County Council and other local authorities will check the prodigality that has crippled the money market, and abstain from the harassing interference that frightens capital and stifles enterprise, building activity will speedily enrich the country, decreasing on the one hand the burden on the rates of the unemployed, increasing on the other hand both the rateable value of property and the ability of ratepayers to pay their levies.

That there is a limit to the public endurance of harassing interference has been clearly shown during the past year by the strenuous opposition offered to the amendment of the London Building Act proposed by the London County Council. If the unwieldy bulk of London can thus be stirred, still more should provincial rulers be careful not to follow the example of the London County Council, and goad their constituents to the opposition that in their case is so far more readily effective.

New Buildings.

Some of the more important buildings commenced in the past year have been the Royal Sanatorium for Tuberculosis at Midhurst, Sussex, from the designs of Mr. H. Percy Adams; the extension of Caius College, Cambridge, for which Messrs. Aston Webb & E. Ingress Bell are the architects; University College, Sheffield, from the designs of Messrs. Gibbs & Flockton; the Leysian Mission House, by Messrs. Bradshaw & Gass; the Technical College, Glasgow, by Mr. Barclay; and the National Memorial to Queen Victoria, by Mr. Aston Webb.

Completed Buildings.

Amongst important buildings which have arrived at completion we may mention the London Pay Hospital, by Messrs. Young & Hall; the Gaiety Theatre, by Messrs. Ernest Rüntz & Ford; the Town Hall of East Ham, from the successful competition design of Messrs. Cheers & Smith; the Baptist Church House, by Mr. Arthur Keen; the Royal School of Art Needlework, by Mr. F. B. Wade; the Baltic Exchange, by Mr. T. H. Smith; the Asylum at Tooting Bec, by Messrs. A. & C. Harston; the Camberwell Infirmary, by Mr. E. T. Hall; and in the provinces, the nave of Truro Cathedral, from the designs of the late J. L. Pearson; the Royal Insurance Office, Liverpool, by Mr. J. F. Doyle; the Royal Victoria Hospital, Belfast, by Messrs. Henman & Cooper; and the Midland Hotel, Manchester, by Mr. Trubshaw.

Fire Prevention

has received considerable attention during the past year. The disastrous conflagration at Colney Hatch Asylum has shown how completely the London County Council neglect their duties whilst expending their energies in forcing their fads upon the public. The exhibition at Earl's Court has afforded useful lessons both in fire prevention, in fire extinction and in life-saving; congresses, conferences, lectures before various bodies have all tended to enlighten the public and let us hope to instruct the authorities.

The great problem of

London Traffic

has not yet been solved, but is in process of solution. Tubes from Waterloo to Baker Street, from the Great Northern Railway to the Strand and to the City, are in active stages of formation; the widening of London Bridge is almost completed, and Vauxhall Bridge has advanced to the contract point.

Technical Education

has received a much-needed impetus by the proposal for a National College of Applied Science brought forward by Lord Rosebery. We trust that this college may soon become an actuality and lift the so-called technical education of to day to the level of real and useful instruction, and out of the slough of dilettante amateurism in which it is sunk. The great need of technical education in England at present is a national college in which competent teachers can be instructed, and from which they can go forth to make education a serious reality and not a sham.

Following the example of Liverpool, the Corporation of Manchester, in conjunction with the Council of Owens College, have in the past year established a chair of architecture in the University of Manchester, and have appointed to it Professor Capper, whose distinguished university career and experience in Montreal give earnest of a successful future for the new seat of architectural education.

The death of Professor T. Roger Smith has been followed by the appointment of Professor Simpson to the chair of architecture at University College, London, and the new professor, following the lines he has established at Liverpool, has initiated a further development, and provided the architectural students of London with yet one more school for day classes.

The Architectural Association has entered into possession of the Architectural Museum, Tufton Street, Westminster, and is busily engaged in carrying out the alterations considered necessary and in collecting the funds to pay for them.

Registration

has made some headway during the year, and within the last month notice has been given by presidents of several of the most important provincial societies of motions which will test the present opinion of the members of the Royal Institute of British Architects. Although the issue was raised by the late Mr. Silvanus Trevail at the annual election of the Institute Council, the result of the election was indeterminate on the question.

The Building Trades Exhibition

has made its biennial appearance, and has once again performed its useful function of bringing to the notice of architects and builders many of the newest improvements, as well as reliable and well established manufactures in connection with building. This exhibition has played no small share in the establishment of a standard size of bricks, whose value for sound construction is undoubted.

Standardisation

is so important an element in modern manufacture that the question of bricks is but the smallest part of the subject, and it is pleasing to record that the Government have through the Treasury recognised the excellent work of the Engineering Standards Committee by a grant from the national exchequer. The committee has already done excellent work by the establishment of a list of British standard beams, of which all architects should take cognisance, and its continued activity in other departments of engineering work is a matter of national importance.

Would that the principle of standardisation could be extended to that most troublesome feature of architectural practice, the law of ancient lights, an attempt to attain which has been made by the Ancient Lights Bill introduced in the last session of Parliament, but not yet made law. In this connection the plucky and determined attempt of Mr. J. Howard Colls, the well known London builder, to obtain a definite pronouncement from the highest legal tribunal of the country on an important point of the law is worthy of all sympathy.

The decision in the case of Stockdale *v.* Ascherberg is one of great importance to the number of householders who have taken houses on the customary three years agreement, as indicating that the covenants to repair usually now introduced are of a very stringent character and totally subversive of the implied understanding that a house let on such a term is in a condition that will not entail the cost of important repairs on the tenant.

An interesting event of the past year has been the formation of a

Quantity Surveyors' Association,

due to the initiative of Mr. W. Hoffman Wood, of Leeds. We fear that a false step has, however, been made by the opening of the membership of the Association to those quantity surveyors who also practise as architects. The formation of such an Association implies the severance of the professions of architect and quantity surveyor. Such a severance may or may not be desirable – there are many good reasons that may be adduced on one side or the other—but if quantity surveyors are not prepared to abjure entirely the practice of an architect, they cannot expect architects to refrain from taking out quantities for their own buildings or for those of other architects. Very many, indeed we might say the majority, of those who take out quantities do also practice as architects, and until quantity surveyors forswear architectural practice they have no *locus standi* as a separate profession and no need for a separate Association.

Science

has signalised the year with important additions to our knowledge of radium, which, although still in a rudimentary phase, opens up possibilities of important modifications in planning, if we are indeed to be supplied with an unwasting source of heat.

The past year has seen another addition, in the person of Sir W. Alfred Gelder, to the restricted list of titled architects. In this case architecture can hardly claim the credit of the honour, which appears due to the activity of the recipient as a citizen rather than as an artist.

To the honour conferred upon Mr. Aston Webb, P.R.I.B.A., by election to the full status of a Royal Academician, such a remark cannot apply, for it is as an architect and an artist that Mr. Webb shines pre-eminent.

The Royal Gold Medal

has this year been bestowed most worthily upon Mr. C. McKim, the talented and prominent representative of the art of architecture in the United States.

Obituary.

The losses by death during the past year have included some prominent names, many, let us thankfully acknowledge, full of years. Amongst these losses we may record those of Mr. F. C Penrose, Professor T. Roger Smith, Mr. Charles Fowler, Mr. H. W. Brewer, Professor Corfield, Mr. W. Wimble, Mr. C. B. Trollope, Mr. Christopher Eales, Mr. J. B. Pearce, Mr. W. Botterill, Mr. E. Birchall, Mr. J. J. Bateman, Mr. Robert Walker, Mr. Herbert Ford, Mr. J. Martin Brooks, Mr. J. Rhind, Mr. Silvanus Trevail, Mr. W. W. Gwyther.

CHESTER CATHEDRAL.*

THE history of the abbey of St. Werburgh, which has become the cathedral of Chester, is one of those which a Dryasdust alone could thoroughly appreciate. The saint was a daughter of a Mercian king, and was a nun at Ely. Afterwards she founded nunneries, and is supposed to have died at the close of the seventh century. There was constant fear of invasion by the "incessant rovers of the northern main," and in ecclesiastical societies of all kinds they were most dreaded, as if they were the worst class of pagans. At one such time, A.D. 875, the relics of the saint were moved from Trentham to Chester for safety. But instead of finding only a temporary resting-place they were honoured as those of a patroness. A shrine was prepared, and a religious community considered it was a privilege to guard the remains and hand down the traditions of the saint. With St. Werburgh, St. Oswald was afterwards associated. According to the late Dean Howson, he was an heroic king, trained under the successors of St. Columba, and intimately associated with St. Aidan's evangelising work in the North of England.

We can hardly suppose that Chester was deprived of a Christian church until the ninth century. The name of the city is enough to suggest Roman occupation. The manner in which some of the streets are laid out and the immense number of Roman relics which are found confirm tradition. Roman Christians would be likely to erect a church, and no patron saints would appear more eligible than St. Peter and St. Paul. It is reasonable to assume the usual practice was followed in Chester, and that the site of the primitive Christian church was utilised for one dedicated to St. Werburgh and St. Oswald. It is that on which the cathedral stands. But prior to the Norman Conquest there is nothing to be related which would now be considered remarkable about the church or the convent. The abbey of Chester may have had its vicissitudes and its successes, like those in other parts of England. But it does not appear to have been the theatre of any great event or to have attracted any famous residents.

The advantages which drew the Romans to the place were not likely to be overlooked by the Norman invaders. Hugh Lupus, a nephew of the Conqueror, was enabled to obtain a grant of Chester and an immense district to form a county palatine, which almost corresponded with an independent principality. He and his countess were inspired with the desire which was then common among successful warriors for erecting a great church. Norman influences prevailed. The abbey became a Benedictine monastery. In the arrangements Anselm, Abbot of Bec, who was afterwards Archbishop of Canterbury, took a prominent part. The monastery of Bec was founded by an illiterate soldier, and in order to obtain means to support it he opened a school, which was directed by Lanfranc. It became a great and famous academy of letters, and it is said that at one time no less than 10,000 students had come to it from different parts of Europe. Anselm was the successor of Lanfranc. We may, therefore, suppose that the abbey buildings at Bec were not without their influence on the new abbey of Chester. The first abbot was Richard, who was one of the monks at Bec, and had been chaplain to Anselm. It was concluded by Sir Gilbert Scott that in Chester, as in Canterbury, the Norman church plan was followed. There was no change in the dedication.

It is impossible to ascribe to the various Norman abbots who followed their respective shares in the Norman remains which may still be traced. Some abbots were apparently indifferent to their charge, or were too poor, for at the end of the twelfth century the church was described as threatened with ruin. Efforts were made to prevent danger, and for nearly a century works were carried on. Abbot Simon of Whitchurch, who came into office in 1265, was considered by Sir Gilbert Scott to have accomplished several remarkable changes. He substituted a choir with a square end and parallel aisles for an apse with continuous aisle and radiating chapels. The lady chapel became an important feature. The chapter-house, which is one of the most interesting examples of its class in the country, was also completed. Among the successors of Simon was Richard Oldham, who belonged to the same family as Bishop Oldham, whose work at Exeter we have lately illustrated. His successor, Simon Ripley, is credited with building the nave, the transepts and the south tower. The south transept, "St. Oswald's Church," is of large size. It is out of proportion to the one on the north side. The length is as great as that of the choir, while the north transept is very short. The people of the neighbourhood claimed it as their parish church, and the differences between them and the abbey on the subject may be taken as a sign of the decline of monastic authority. Abbot Birkenshawe does not appear to have had a peaceful reign, although he continued the building works, especially on the west tower, and he was succeeded by John or Thomas Clark, who was the last of the abbots.

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* See Illustration.

On August 4, 1541, Henry VIII. issued a decree by which the church was changed in its dedication, and became "the cathedral of Christ and the Blessed Virgin Mary." The clergy and officials to be attached to it were a dean, six prebendaries, six minor canons or priest vicars, a deacon, six singing men, six choristers, two masters of the grammar school, twenty-four scholars, six almsmen, a verger, two sextons, two porters, of which one had to be a barber also, one cook and one under-cook – in all seventy-eight. The possessions of the abbey were seized by the king, but he shared them with some of his courtiers. There was left a revenue of 420*l.* 1*s.* 8*d.* per annum. The first bishop was John Byrde, who was Provincial of the Carmelites. He was afterwards translated to Bangor, but was deprived of his office by Queen Mary on his marriage.

The cathedral was doomed to suffer during the Civil War. The Puritan soldiers used the interior as a stable and demolished or injured all the ornamental features which they could reach. Afterwards there was partial restoration, which was continued from time to time. Dr. George Henry Law, early in the nineteenth century, arranged that an eighth of the fines paid on the granting of leases should be deducted in order to provide a fund for repairs. The architect then employed was Thomas Harrison, who had suggested to the Earl of Elgin the advantage which would arise to students of art in England if casts were taken from the sculptures of the Parthenon. At later times there was further outlay on the preservation of the building. But the effect of the operations was to give a patchwork appearance to the cathedral. There was no definite idea about what had to be accomplished or where the alterations ought to begin or end. This will be evident from the remarks in the omniscient *Ecclesiologist*, the organ of the Cambridge Camden Society. Writing in 1843 of some changes then executed, it was said:—

> We have been requested to call attention to the late works at Chester Cathedral, where the altar and part of the choir have been levelled and a screen between the choir and lady chapel removed. Our own imperfect recollection of the cathedral, and the inconsistent statements made both in certain published letters and some private correspondence on the subject prevent us from saying anything positive as to the propriety of the levelling ; for, on the one hand, the late level is asserted to be the ancient one, in which case it ought at all hazards to have been retained ; on the other, the present level is said to be the really ancient one, the late one having been made in the Tudor period, and having much encroached upon the bases of the original piers. If the latter be true it should be examined whether the nave has not been raised by over-frequent interments. Generally we should think it very unadvisable to lower the choir under any circumstances. We sincerely hope that the plan of dispensing with a screen between the choir and lady chapel, and carrying back the altar to the end of the lady chapel, or (what we could scarcely have believed could be proposed) having two altars, one in the lady chapel for the Holy Communion and another in the present position for the "Communion Service," will be abandoned. It is not the genius of Pointed buildings to require long vistas without any interruption.

Three years afterwards we find a discussion in the same periodical about another restoration under Mr. Hussey. At length it was realised that the dealing with parts under different directions was not advantageous.

In 1868 for the first time there was a systematic attempt to restore the building. Some of the work no doubt had to be conjectural, and in consequence the cathedral is now by various critics considered almost as an example of Victorian Gothic. The direction of the works was entrusted to Sir Gilbert Scott. He was supported by Dean Howson with an enthusiasm that seemed an inheritance from the Mediæval church builders. Any one who will compare the building with views which were produced prior to the onerous work undertaken by Sir Gilbert Scott must admit that if an improved and worthier appearance can be taken as a test, then the restoration must be declared to be successful. There were no rash experiments. All that was introduced was the result of reasoning, and the conclusions were based on such data as could be derived from a long familiarity with all varieties of Gothic work. The conical roof, which now terminates the south aisle adjoining the lady chapel, which forms so novel a feature of the exterior, is an example of an unexpected discovery which sometimes arises when the mind of a restorer is not fettered by prejudices and foregone decisions. There is much else which we owe to Sir Gilbert Scott's restoration. One is the increased importance acquired by the old windows. On this subject Dr. Howson wrote :—

> Perhaps there is no place in England where the successive styles of window tracery can be studied more conveniently and to greater advantage. Norman windows, indeed, do not exist in Chester Cathedral ; but, to use the customary terms, Early English of a very fine form is to be now seen on the south side of the lady chapel ; and this is followed by decorated geometrical tracery in the aisle and clerestory of the choir ; and this again is succeeded by decorated flowing tracery in the aisle of the south transept ; while the series is completed by the Perpendicular windows of the clerestory of the transept. As regards the clerestory windows of the choir, they have this peculiarity, that they are destitute of labels or hood mouldings. The tracery of these windows, which is very light and elegant, was saved by a narrow escape from utter disappearance. Stone sticks (no other name would be appropriate) had been inserted on the south side, but on the north side two windows of the ancient form remained—so ruinous, however, that a violent storm might easily have shattered and destroyed them. From these two windows the whole series, both on the north and on the south, have been correctly reproduced. It ought to be added that, till the recent restoration, the tracery of the windows of the aisles of the choir and south transept, though correct in form, was not really of stone, but of composite materials, which might correctly be described by the Yorkshire word "shoddy."

In the plates which will follow, our readers will be able to judge for themselves about the fine perception which marks the restoration of Sir Gilbert Scott.

STANDARD SECTIONS OF BEAMS.

About a century and a half ago John Smeaton startled the world of construction by introducing cast-iron for beams. The material had been used for some time in steam-engines and pumps, and, unless history is inexact, its first employment was for cannon. The destructive arts have not been without their influence in hastening inventions which were afterwards applied to constructive purposes. Smeaton tells us that when his cast-iron beams were seen, the cry then was that if the strongest timbers are not able for any great length of time to resist the action of the powers, what must happen from the brittleness of cast-iron ? His reply was:—"It is sufficient to say that those very pieces of cast-iron are still at work, but that the good effect has in the North of England, where first applied, drawn them into common use, and I never heard of one failing." Improvements in casting led to the use of cast iron in bridges, and Pritchard, an architect of Eyton Turret, made several designs to show how stone or brick arches might be constructed with cast iron centres, so that the centre should always form a permanent part of the arch. Boulton & Watt employed cast-iron beams and cast-iron columns for a cotton mill in Manchester in 1801. Smeaton favoured a section which was only a thick bar, but the new girder was a bar or web 1¼ inch thick, with the bottom flange having a width of 3¼ inches. It therefore bore some resemblance to the normal section, afterwards selected as the best adapted for cast iron. It is remarkable that although the introduction of railways led to the rolling of rails of different sections, a comparatively long time had to elapse before rolled wrought-iron beams were proposed as a substitute for those of cast-iron. The material was seemingly first applied for flooring beams in Paris, and its employment is said to be due to a strike of carpenters. Fairbairn, who had been largely engaged in the erection of mills with cast-iron beams and columns, and who was the first to take out a patent for a girder made up of plates and angle-irons, had not fully decided in his mind as to the possibility of employing rolled beams until he found some French examples in the Paris Exhibition of 1855. He saw one beam with a length of 60 feet and another of 40 feet, and he observed :—"These beams were sent to the exhibition as specimens of manufacture, and were probably rolled for the purpose; they, however, clearly show that beams of this description can be made direct from the rolls, and we have yet to attain in this country a higher state of perfection in the manufacture, and a more extended application of wrought-iron beams to the construction of dwelling-houses." One was 11 inches in depth, the other 9 inches. The depths which were used in Paris were given at the time as varying from 4 inches to 8⅝ inches.

In the course of half a century the use of rolled joists has become more general than Fairbairn could have anticipated. The variety of sections to be found in the market is remarkable. It must be owned that the ironmasters of this country have been desirous to meet all possible demands, and the result is that sections may be purchased in England which are not to be seen in any other country. One of the reasons which led to the creation of the Engineering Standards Committee was derived from the multiplicity of sections and beams produced in this country, and for which it was maintained there existed no necessity. By diminishing the number it was concluded that economy would be insured, and the competition in joists with foreign countries would be rendered less difficult, as the conditions would become more equalised.

The statement relating to rolled beams has appeared, and, considering how important was the work, much expedition has been used. The committee who were principally responsible for drawing up the list consisted of Sir Benjamin Baker, Colonel Sale, Messrs. G. L. Eyles, W. Shelford, Max am Ende, Thomas Blashill, A. Buchanan (Handyside & Co., Ltd.), W. H. Panton (Dorman, Long & Co., Ltd., Middlesborough), F. E. Robertson (Sir A. M. Rendel & Co.), H. J. Skelton (H. J. Skelton & Co.), J. Hamilton Turner (P. & W. Maclellan, Ltd., Glasgow) and J. E. Tuit (Sir W. Arrol & Co., Ltd.). It was anticipated that a marvellous reduction would be recommended. But no less than thirty sections are adopted. Much importance is to be attached to the tapering of the flanges and their connection with the web, all of which will be explained in the diagrams attached to the list of sections. But the following list of the sizes recommended will suggest that the reform is not of a revolutionary kind. The sizes are in inches :—

3 × 1½; 3 × 3; 4 × 1¾; 4 × 3; 4¾ × 1¾; 5 × 3; 5 × 4½; 6 × 3; 6 × 4½; 6 × 5; 7 × 4; 8 × 4; 8 × 5; 8 × 6; 9 × 4; 9 × 7; 10 × 5; 10 × 6; 10 × 8; 12 × 5; 12 × 6 (44·02 lbs.); 12 × 6 (53·99 lbs.); 14 × 6 (46·01 lbs.); 14 × 6 (57·01 lbs.); 15 × 5; 15 × 6; 16 × 6; 18 × 7; 20 × 7½; 24 × 7½.

Any manufacturer of joists would be able to supply not only the thirty sections recommended by the Engineering Standards Committee, but at least twenty additional sections. Whether architects and engineers will be willing to restrict themselves to the thirty has yet to be ascertained. But as there is some advantage in adhering to standard forms, the committee's recommendation is likely to be gradually adopted.

In ordering sections, especially by telegram, there is a risk of one being confounded with another. The committee have, therefore, selected thirty code words which will serve for the sections respectively. They are as follows :—Abscession, abscond, absconding, absented, absentees, absenting, absently, absentness, absinthe, absinthine, absolute, absolution, absolutory, absolvable, absolved, absolving, absonous, absorb, absorbable, absorbing, absorption, abstain, abstainers, abstaining, abstemious, abstergent, absterse, abstersive, abstinence, abstorted.

There is generally more or less difficulty in arranging a code. The Eastern Telegraph Company have taken about 16,000 words from the Latin dictionary, beginning with "abactor," and ending with "protonare." But in that case it was necessary to provide for universal requirements and to express an almost infinite variety of subjects. In some smaller codes adapted for business purposes the dictionary in various ways has to be laid under a contribution. But in a code which relates to no more than thirty objects it was unnecessary to have recourse to words which can have no possible connection with iron beams. To have one beam called "absinthe" and another "abstainers" sounds strange, and can hardly be considered amusing. What should have been done was to enable a certain name to be associated with each beam. To insure that end there could be no better arrangement than the application of the names of thirty architects and engineers who have employed steel or iron beams. Smeaton, Pritchard, Boulton, Watt, Wilkinson, Rennie, Murdock, Telford, Fairbairn, Hodgkinson, Tredgold, Stephenson, Clark, Fowler, Paxton are among the names which would serve for that purpose. By using the names of individuals the utmost definiteness would be secured. Even the labourers about a merchant's wharf would within a short time be able to identify each of the standard joists, whereas there must be some hesitation, or the "absenting" joist would be confounded with the "absentness," the "absolved" with the "absolving," the "absterse" with the "abstersive," and so on. Engine-drivers on railways wish to have their locomotives distinguished by names like those we have suggested, but with such objects there is not the same necessity to avoid confusion as there is among beams, where differences may be only fractions of an inch.

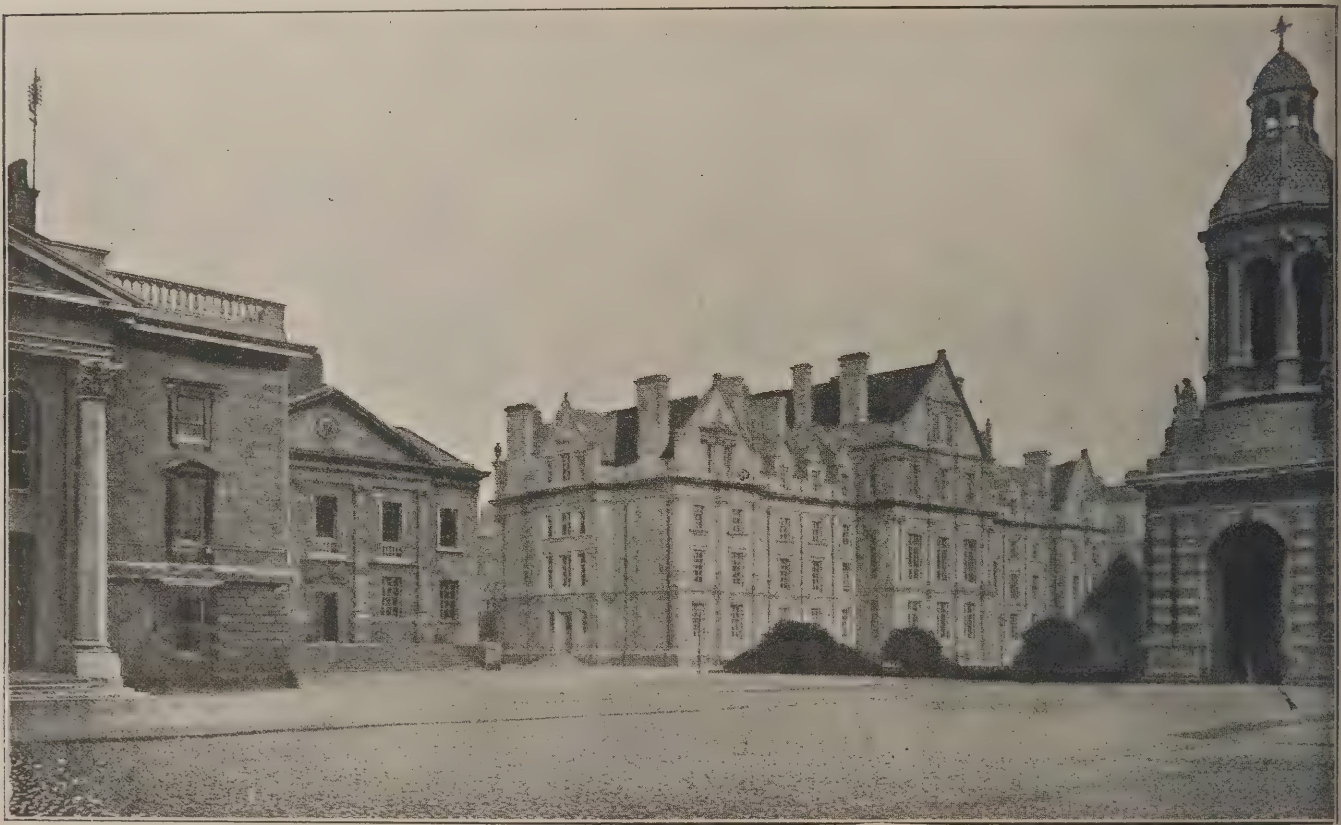
DUBLIN UNIVERSITY.

A GREAT many people in England derive their notions of the character of the Dublin University or Trinity College from the references to it in Lever's "Charles O'Malley." The author, who was the son of a Dublin architect and builder, was a student of that institution, and the Frank Webber of the romance was one of his chums. Charles Lever took part in many practical jokes with his friends. He composed ballads like Oliver Goldsmith, and sang them in the streets in disguise. He was so successful that one night he is said to have collected thirty shillings in coppers. Probably all he said about Webber's large and handsomely furnished room, with its Brussels carpet and softly cushioned sofas, which contrasted with the meagre and comfortless chambers of his mentor, Dr. Mooney, who was one of the junior fellows, was correct. The wild scenes in which Charles O'Malley participated may have been only slightly exaggerated. Goldsmith at an earlier time, in spite of his poverty, used to give dancing parties in the college. His tutor, Mr. Wilder, on one occasion entered the room, turned out the youths and maidens, and knocked down the host. In consequence, Goldsmith ran away from Old Trinity, and entered on his perilous journey as a citizen of the world. It is possible that many of the students from time to time varied their studies with fun and frolic. But it should be remembered that in those days in Ireland the advantages of close study and high degrees were not recognised by all. In the seventeenth century Jonathan Swift was so irregular and inattentive a student, he was not only publicly admonished, but was sentenced to beg in public the pardon of the Junior Dean.

As the University of Dublin consists of a single college, there is consequently less necessity for competition than in Oxford or Cambridge, where there are numerous colleges and the desire to uphold the reputation of each of them is an incentive to the respective residents. Even one college was considered as a boon. Although Irishmen in Mediæval times devoted themselves to learning, the ancient schools of the island did not adopt the university system. Yet in Armagh it is said there were 5,000 students at one time. It is believed there was also a great college near the picturesque Glendalough, or the Seven Churches, a delightful region in

Wicklow, which is known to tourists. But the education was limited. For those who were ambitious to obtain wider instruction Oxford and Paris were preferred. In Oxford, one street was known as Irishman Street The absence of a university was felt to be so peculiar that in the beginning of the fourteenth century the Archbishop of Dublin was able to obtain a grant from the Pope authorising him to establish a university which was to serve not only for Ireland, but for the Isle of Man, Scotland and Norway. No effort was made to realise the project for some years. Then when a university was set up it does not appear to have been successful. In 1358 a memorial was addressed to Edward III. explaining the expenses and dangers to which Irish students were exposed through not having a university of their own. From this it may be assumed the first attempt was not approved. Another attempt in 1465 failed through want of money. Again and again efforts were made, but without attaining finality.

More success followed the effort that was made in the reign of Queen Elizabeth. The defeat of the Armada had enabled England to give more attention to domestic concerns, and in 1591-92 the queen granted a charter to Trinity College conferring on it the privileges of a university. It was anticipated that other colleges would be founded, but Trinity College continues to be without a rival, not entirely to the advantage of the students. The suppressed monastery of All Hallows was made over to the founders and some subscriptions were raised for building. The first stone was laid by Thomas Smith, mayor of Dublin, and the buildings were opened to students in January 1593 The income from fees and other sources was at first inadequate, but the confiscation of a great part of Ulster enabled James I. to grant several estates to the new university. In succeeding years property was obtained in other parts of Ireland, and the university is to a great extent supported by the income derived from leaseholds.



Sir Thomas Drew, P R H.A., Architect.

TERCENTENARY MEMORIAL BUILDING, DUBLIN, 1903.

The early buildings in course of time fell into ruin or became too limited to meet the requirements of professors and students. In the eighteenth century Sir William Chambers obtained a commission to erect many new buildings. He was not satisfied with the methods of transacting business which the authorities adopted, and a letter is still extant in which he declared his resolve to abandon the work. The buildings form three quadrangles Thackeray visited Trinity College in 1842, and he says :—"The square of the college is a fine sight: a large ground surrounded by buildings of various ages and styles, but comfortable, handsome and in good repair; a modern row of rooms, a row that has been Elizabethan once; a hall and senate-house, facing each other, of the style of George I., and a noble library with a range of many windows and a fine, manly, simple façade of cut stone." The campanile is a modern structure, and was designed by William Henry Lynn in 1852. The bell, which was formerly hung in a wooden hut, is an important agent in the administration of the University, and has been made the subject of many poetic attempts. One sample may be given :—

> When to the hall the trembling Freshmen pour,
> Soon to be followed by the Fellows sour,
> How awful is thy tone at that dread hour.
> Oh, happy he who safely steers between
> Rewards and dire disgrace! No terrors keen
> Afflict his soul, nor hopes exalt, I ween!
> Inglorious though his lot, yet calm he hears
> Thy tolling stern, of caution-men the fears
> Arousing as it strikes their tortured ears.
> Subjects and angles, modes, hypothenuse,
> Logic and problems, Greek and Roman muse,
> Thy solemn voice doth in their brain confuse!
> And as thou pealest on, thou learned bell,
> What fears and hopes alternate sink and swell,
> In those few bosoms striving to excel.

As any interference with the bell was supposed to put the whole machinery of the university out of gear, we can understand Mr Webber as a representative student endeavouring to attain that end Taking advantage of an effort to discover remains of the ancient university buildings, he undermined not only the wall of the Fellows' garden but the enclosure which served for a campanile, and performed many other novel feats in archæology. Lever attempted to present the joyous side of university life in Dublin, which was more in keeping with Mediæval precedents than with our prosaic age A different spirit now prevails, and no better evidence is to be found than in the efforts which have been made to erect new buildings from the designs of Sir Thomas Drew, P.R H.A., which will enable more satisfactory arrangements for teaching to be adopted by the authorities

Many who are familiar with the college and its greater and spacious quadrangle are not aware that it owes much of its picturesqueness and architectural interest to what may be called the Hibernian whimsicality of many successive Boards of Senior Fellows and bursars, in successive building projects, holding a grand disregard for the intentions of their predecessors as to preconceived plan or alignment of buildings or frontages. What is now the great quadrangle is in reality two "squares" formerly existing thrown into one, by removal of a range of buildings dividing the space, which some long-departed Board took down with the intention of rebuilding. It has never been rebuilt, and Trinity College owes its delightful variety to the omission. What was once the outer or eastern quadrangle, known as Parliament Square, had three sides enclosed: on the east by the range of chambers well known, with a frontage to College Green of about 300 feet; on the south by the examination hall and other chambers, and on the north by the chapel, all from the design of Sir Wm Chambers, and correct and dignified Classic work of 1780. The other and older quadrangle, which once enclosed what was the remnant of the monastery church of All Hallows, now, by its irregularity of buildings, gives a certain charm to the long shaped court There is on the north side a refectory by an Irish architect of 1770-80, with a delightful disregard for the design or alignment of Chambers's buildings. The remainder of the north side is now enclosed by the group of Union Buildings and the Graduates Memorial, built from Sir Thomas Drew's design, which, like the rest, disregards frontage line or adherence to monotony of style. It observes, however, continuation of the lovely local colour of Trinity College, due to its weathered admixture of Portland stone and granite. Although in a more modern treatment of Classic Renaissance, it has been at least desired not to be out of harmony.

The east side of the Square, which presents a decidedly new and startling want of congruity in its staring red brick, may be treated as an unhappy vagary to some temporary individual authority. It is, however, an old range of students' rooms of 1710, where Oliver Goldsmith had his, and locally known as Rotten Row, bumped up and faced with vulgar bricks and sham gables. Its removal at an early date is prophesied. The southern site, facing the Union Buildings, is occupied by the stately old library begun in 1709, and by an architect unknown. Near the centre of the quadrangle stands isolated, on the site of the central tower of the old monastery, the well-designed belfry.

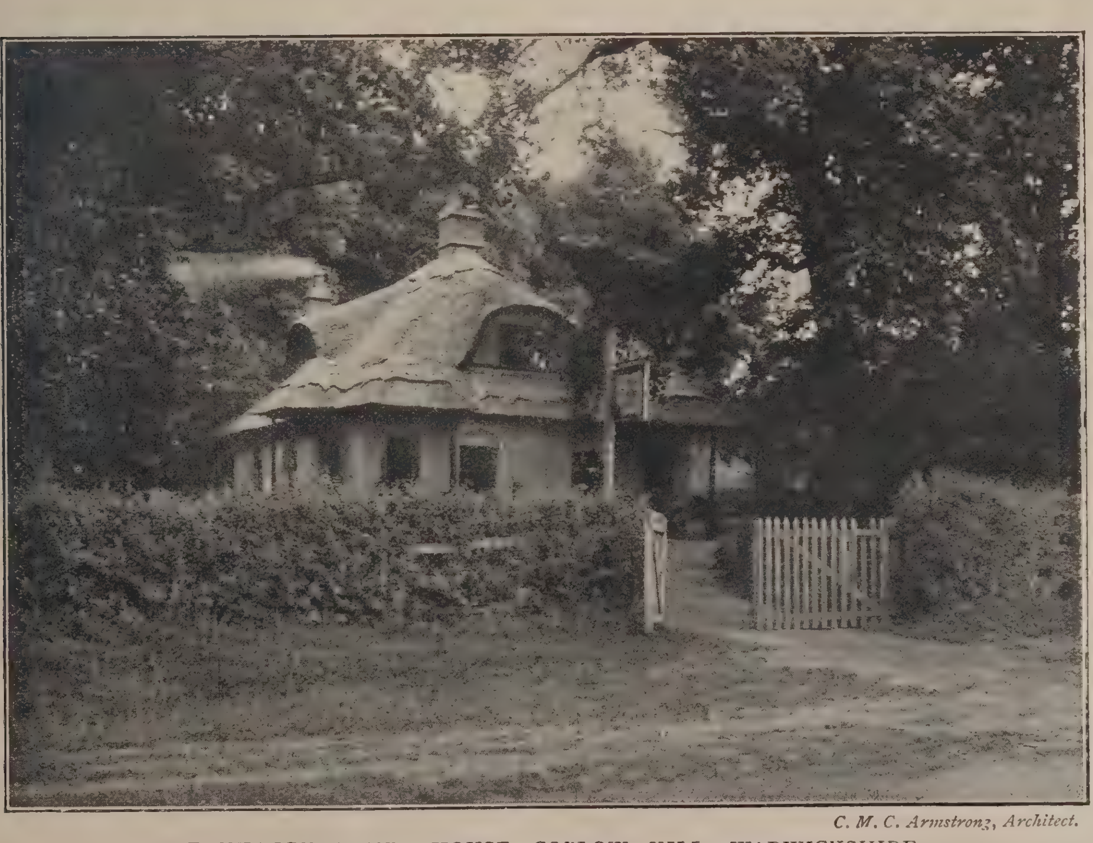
Sir Thomas Drew's new building provides a central block of Union club-rooms, large meeting-rooms for the college societies, and a debating theatre capable of being hereafter extended as a concert-room into the gloomy precinct known as Botany Bay. The wings contain forty sets of students' chambers, and the difficulty presented in incorporating these lower-floored ranges of buildings with the loftier fenestration and division of the central block appears to be happily met by a uniform entablature of the Ionic order used in the central block and carried round the whole. The cost has been about 27,000*l.*

TEA HOUSE, COPLOW HILL.

On that popular road leading from Warwick to Stratford-on-Avon, and three miles from the former town, this old-fashioned cottage was recently converted into a cosy tea-house for the passing traveller and cyclist Living-rooms were placed in the thatched roof, which was entirely stripped and re-covered by a Norfolk thatcher, who brought his own fen-reeds. The large tea-room is to be oak-panelled and furnished with oak settles, old china, &c, the central-arched beam being carved with appropriate Shakespearean quotations; simplicity being aimed at, all mouldings were reduced to a minimum. The floor is tiled, and the open brick hearth and ingle-nook are brick-faced. Lavatory accommodation has been provided at the back, and leaded lights fill the windows An artistic signboard swings over the entrance-gates. Mr. Armstrong, of Warwick, was the architect.

THE ZURICH MUSEUM.

At the end of December Dr. Henry Angst, C.M.G., British Consul-General for Switzerland, retired from the position, which he has filled for many years, of director of the National Swiss Museum of History and Archæology at Zürich. Dr. Angst's services to this country—in his official, though unpaid capacity—during a critical period, when British interests were assailed abroad by an organised conspiracy of hatred and calumny of which Switzerland was a chief centre, have been not adequately recognised, says the *Times*, except by his election, under Rule II., at the Athenæum Club. But, on another side, Dr. Angst has been rewarded for admirable work by his own countrymen, not all of them by any means sympathetic towards his labours in vindicating the British cause and in a manner unusual in a jealously democratic community. To Dr. Angst, a disciple of the illustrious archæologist, Ferdinand Keller, largely belongs the credit of having the museum planted at Zürich, and still more the honour of its organisation, which for its special objects can hardly be matched in any other city. In 1892, after the preliminary struggles were over, the Federal Council appointed Dr. Angst, who had been secretary of the Commission of Inquiry and had taken a leading part in the purchase of the antiquities which formed the nucleus of the collection, to the directorship of the new institution. In the following year the foundation-stone was laid of the museum buildings, which were rapidly completed and were opened, after their transfer from the city of Zürich to the Confederation, in 1898 Some time ago Dr. Angst resigned the directorship, which was



C. M. C. Armstrong, Architect.

THE THATCHED TEA HOUSE, COPLOW HILL, WARWICKSHIRE.

to have taken effect at the end of last September. At the special request, however, of the Swiss Federal Government, he continued to hold the office *ad interim* up to the close of the year. He will remain one of the trustees of the institution which owes so much to him, and which does so much honour to his native city. When Dr. Angst decided for personal reasons to retire from the directorship, the Federal Government, recognising his official services as well as his lifelong efforts for the preservation of the antiquities of Switzerland, resolved to present him with a silver centrepiece for the dinner table, executed by the well-known sculptor Hans Frei, of Basel. The work is in the artist's hands, and the presentation will probably be made in the course of the next few weeks Other tributes of an equally gratifying character have come from Dr. Angst's fellow trustees and from private friends connected in various ways with the museum. This demonstration of appreciation and intelligent good feeling is equally honourable to Dr. Angst and to his countrymen. It is gratifying to us to know that Dr. Angst, though unpaid, will still retain the charge of British interests in Switzerland. They could not possibly be in better hands.

TESSERÆ.

Exterior Frescoes in Italy.

IN no city of Italy was the combination of architecture and painting more studied and carried to a higher degree of perfection than in Verona. Its splendid Gothic monuments, churches, tombs and public and private buildings were profusely decorated with frescoes, and not only were the interiors of edifices thus adorned, but even the façades of palaces were covered with paintings representing biblical and classical subjects. Painters of the highest repute did not disdain to employ their talents for such purposes. Mantegna thus decorated the palaces of Mantua and Padua, and even Titian, Giorgione and Pordenone vied with each other in this field of art. Unfortunately, with the exception of some fragments by Pordenone, the frescoes executed by those great masters in Venice have perished. In Verona, Vicenza and other cities of *terra firma*, and especially of the Friuli, such works have fared better. Their effect is rich and striking, and adds much to the picturesque beauty of the old Venetian towns. The subjects chosen were sacred and profane, holy families and saints, the patrons of the town or of the owner of the building, or scenes from the Old Testament; episodes from the history of Greece or Rome, not unfrequently representations of contemporary events. These paintings were accompanied by imitations of architecture, Classic ornaments and medallions of heroes and celebrated men. This mode of decoration was carried to great perfection on the façades of the spacious palaces of Verona. Nearly all the painters of the Veronese school who have gained renown were engaged in it. The traveller who has visited Verona will not forget the picturesque appearance on a sunny Italian morning, and especially on a market day, of the great square—the Piazza delle Erbe—with its painted house fronts and its two columns surmounted by the symbols of the old Venetian republic. The scene has been a favourite one with our painters.

The Historical Panorama of Le Mans.

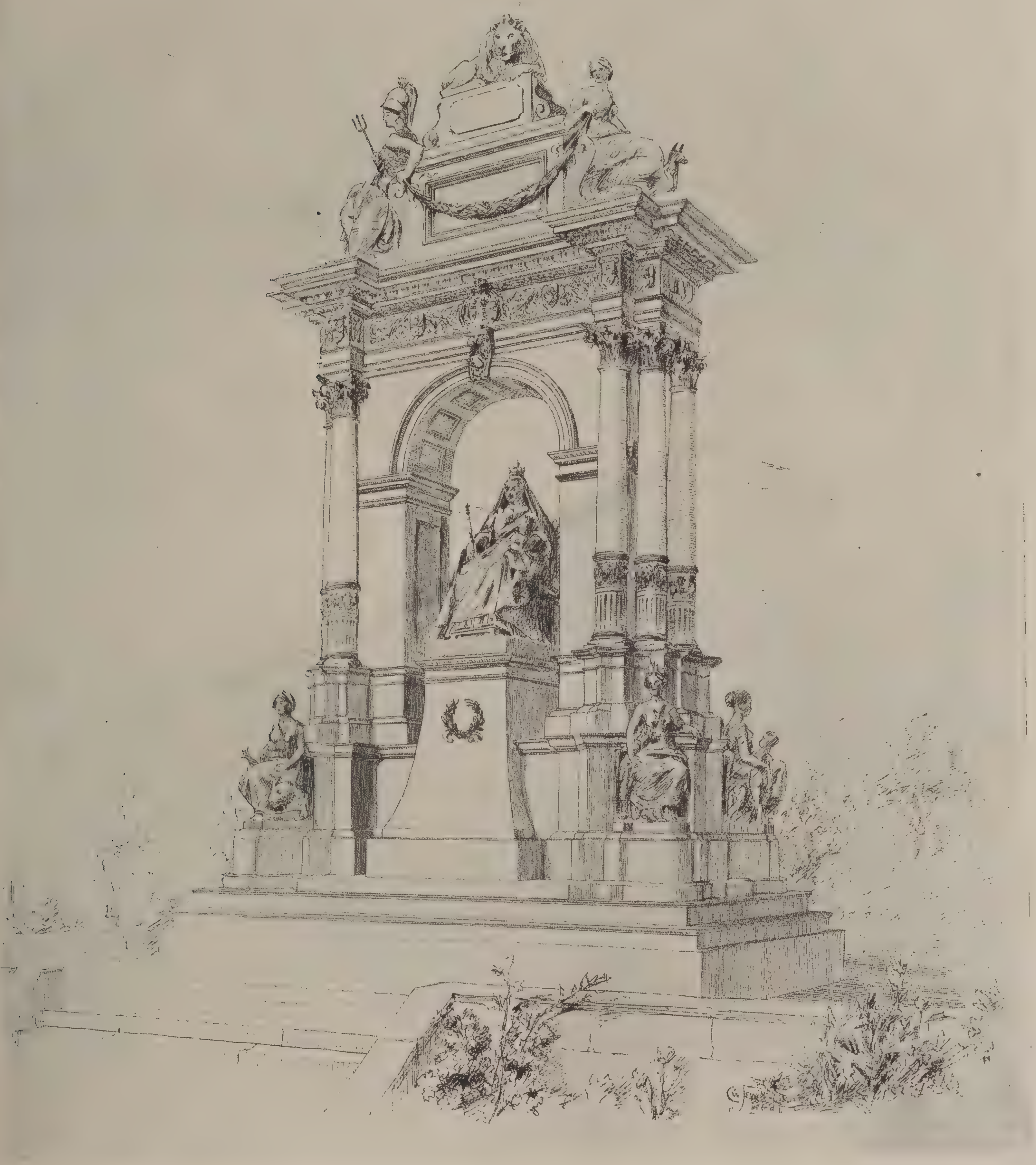
Standing on the steep of Le Mans, we behold the traces of well-nigh every age since a time earlier than recorded history. There shall we see circuit within circuit, wall within wall; we shall see the highest point crowned by the Gaulish hill-fort swelling into the earliest Roman enclosure which still bears the name of the Old Rome. We see the Roman city outgrowing its earliest boundaries, and girded lower down the hill with a rampart of the days of Constantine or of Cæsars later still. We see the palace of the ancient counts, growing, as it were, out of the Roman wall, and the fragment which is all that the policy of Richelieu has left of the tower of our own Conqueror. We see the Mediæval walls embracing yet a wider circuit, and the modern city spreading itself again far beyond even this wider enclosure. We see the houses, great and small, of every form of architecture from the eleventh century to our own day. And above all we see the vast cathedral, the noble though incongruous work of so many ages, the portal which opened to receive the Conqueror, the ruins of the tower which was levelled at the bidding of his son, the soaring apse to make room for which the Roman pomœrium itself has had to yield. Thus on that wondrous group of so many ages we see written in letters legible enough that here is a city whose continuous life has never been interrupted, which has gone on as a dwelling-place of man, as a seat of local dominion from the days of Cæsar and from the old time before him. Every age save one has left its impress on that ancient city; the works of one period alone are wanting. Older and newer monuments are there in abundance, but no church, no wall, no castle dates from the days immediately following the Frankish conquest. And why? Because the Frank came not as a destroyer to overthrow the monuments of earlier times, nor yet, like some later conquerors, did he come to leave behind him a marked change in art as one of the visible memorials of his coming. He was contented with what he found in the city of his conquest, and he sought neither to destroy nor to improve. He dwelt in the Roman house; he prayed in the Roman church; his city needed no defence beyond its Roman rampart It was not till a later age that art struck out new forms for itself, and the works of Roman times gave way to buildings of another style. And even those buildings were for a long time only developments of Roman forms, whose history shows us that the mighty works of the empire were still the models of their founders. On a site like this, where there is no breach, no gap, where a city has been simply extending its borders during a space of 1,900 years, the lack of living monuments of the very age of the conquest simply shows that the conquest was not a conquest of destruction, but that the Roman city, its buildings and its inhabitants alike, lived on unhurt and undisturbed, though its lord was now the Frankish king and not the Roman Cæsar.

Perpendicular Ornament.

In the early styles of Gothic the conventionalism is always striving onwards towards nature, and constantly approaching it; in the Perpendicular period, however, we have conventionalism in its departure from nature—the forsaking of the source of perfection instead of the striving forward to reach it. It must not, however, be supposed that the foliage is devoid of beauty; this is far from being the case. There is often a sharpness of character about the carving of this period which produces an excellent effect, and in wood-carving the peculiar capabilities of the material are brought out more distinctly than at any previous time—even the stone carvings are often of exquisite beauty, as in the monuments to Abbot Ramrygge at St. Albans and of Bishop Fox at Winchester, and though there is much work of this period which is extremely mean, there is still throughout the entire style evidence that skill and invention were as abundant as at former periods, though exerted under inferior guidance and in days of declining taste The French carving of this period is truly wonderful in its execution, and occasionally true to nature, but frequently exuberant and wild in the extreme. The poppy heads or finials to seat-ends of this age are amongst the most characteristic specimens. The decoration of wood panels in various ways is almost peculiar to the style The metalwork of locks, &c, is often of wonderful beauty, and of the style throughout it may be said that much may be learned from it in every one of its branches, calculated to supply some hiatus in the former period, and which, being connected with a study of nature, will tend to render our material for ornamentation more copious and complete.

Michel Angelo's and Mulready's Drawings.

There are two sorts of drawing—the simple imitation of nature and the expression of knowledge. Mulready's drawings may be considered as a type of the first, Michel Angelo's of the second. The first is a laborious achievement, the second is educational, and even where done with an imitative motive, it is not so much a direct transcript from the object as it is a putting down the impressions which that object produces or recalls. It does not pretend to be an illusive imitation, it is an expression of a knowledge of the facts which the artist sees. Mulready laboriously tries to imitate the facts, Michel Angelo puts down a vigorous cipher, which represents to himself and others the very essence of them, not only the outline, but the markings of the muscles, where no outline really is, being put in with a strong line. If Mulready had by any accident drawn a vigorous line, he would infallibly have had to rub it out again. Educational drawing should be looked upon as the putting on paper the knowledge of facts and form; every line should be an attempt to fix and record the result of intellectual effort and comprehension. Masterly drawing is the result of knowledge, not of imitation, and all education which fails to impart knowledge is worthless It seems to have altogether escaped the notice of our instructors that life is limited in its duration; if Methuselah had had a very great natural aptitude for patience and art, he might have made something of our present system—for post-diluvians it is a failure, and it is lamentable to see students taking months to acquire knowledge which by another method could easily be imparted in a week. *Ars longa, vita brevis est*, and that system is the best by which the student acquires and retains the greatest knowledge in the shortest time. Let him follow the method of the old masters, let him fill note-books with accurate records of his observations, let him study nature to acquire facts and principles and put down what suffices to recall them; let him, moreover, write descriptions as much as he draws, and he will find that, even unaided by a master, he will have spent his time well.



DESIGN FOR QUEEN VICTORIA MEMORIAL, MELBOURNE.

By Clement W. Jewitt.

THE subject of the above illustration was designed for the Melbourne Queen Victoria Memorial Competition, in which it was awarded one of the premiums. The materials employed would have been Australian granite (unpolished) for all the architectural work except the pedestal of the Queen, and the columns would be Cornish granite, the columns being polished. The figures, frieze, caps of columns, lion, swags and wreath in bronze. The figures on the top represent "Britannia" and "Australia,' while those below are emblematical of the other British Possessions The frieze would show the arms of the various Australian States on a background of Australian plants, the English Royal Arms forming a centrepiece. The entire height of the monument was to be 46 feet, the figure of Her Majesty about 9 feet.

NOTES AND COMMENTS.

On last July 31 and August 1 it was arranged that a match was to be played between the Perthshire Cricket Club and a team representing Forfarshire The game is not so popular in Scotland as in England, but on that occasion a crowd of spectators was anticipated, and permission was sought from the Town Council of Perth for the erection of a stand to seat 1,100 people, and to enclose the ground with boarding. Economy rules in the North, and the advice of an architect or engineer was not obtained. The contract was given to Mr. Leith, a joiner, trading as James Leith & Co. The price to be paid was not extravagant, for it amounted to no more than 25*l.* The burgh surveyor examined the stand, and it was passed as safe. On the second day, however, the stand collapsed like a pack of cards, it was said, and all the occupants were thrown to the ground. Claims were made against the Perthshire Cricket Club on account of the injuries, and an action was brought by the club against the contractor to recover 200*l.* for the loss and damage sustained, for if the stand remained more visitors would have paid for admission. Mr. Robertson, an architect, who gave evidence at the trial, said he believed the fall was caused through the insufficiency of the bracing. The contractor alleged that the stability of the stand was affected by the heavy rain. On Saturday judgment was given by Sheriff Jameson, the amount awarded being 37*l.* 10*s.* The contractor was declared to have failed in not exercising ordinary skill and care. The case is one which should be regarded by the public as a warning to avoid paying for admission to a stand unless there is some guarantee about its strength. From the evidence it was plain that the club officials thought only of the money which was to be gained, and which was expected to amount to 400*l.* They did not take the trouble of inquiring from the burgh surveyor whether the stand could support 1,100 people.

It will be strange if the French Institut should become the proprietor of many palaces. There are people in France who consider that body to be more enduring than any form of government, whether republican, monarchical or imperial. The example given by the Duc d'Aumale when he made over Chantilly is not unlikely to be followed by others possessing renowned buildings which they wish to have preserved The Château de Langeais, on the banks of the Loire, is a building which looks well from every point of view. The skyline is broken by a great number of chimneys and conical roofs, and a Scottish traveller might well imagine he saw before him one of the great northern mansions The connection of the structure with Louis XI. also recalls associations of Quentin Durward. It owes its historic importance to the circumstance that in it the marriage of Charles VIII. and Anne of Brittany took place. The hall in which the ceremony was performed remains almost unaltered. The original building was founded in the eleventh century, and for many years the castle seemed as if it were destined to be the property of whoever captured it. In our time it fell into the hands of M. Jacques Siegfried, who has been careful to restore it as far as possible to what it was in the thirteenth century. The entrance is reached by a drawbridge protected by towers. In the inner court there are three towers. On the work of restoration M. Siegfried has expended a large sum of money, and he may have had a foreboding that if it was purchased it might be modernised. Possession will not be obtained by the Institut until after the death of M. and Madame Siegfried. A part of the park will be reserved for an asylum for old people founded by Mdlle. Siegfried. It is a noble gift of which the members of the Institut may well be proud.

We lately referred to the explorations of the Louvre by M. Redon, from which it was inferred that the lower portion of the structure was concealed. To what extent the excavations may be continued it is impossible to say, but it seems very like a waste of labour. With a collection of buildings covering so large an area there was likely to have been many variations in the levels of the lower parts. The works which were necessary for enlargements or alterations were never carried on regularly. Du Cerceau, who had been employed by Henri IV., fell into disgrace. Then the death of the king suspended operations for fourteen years Richelieu was ambitious to complete the palace, but he was disappointed. Levau was commanded by Louis XIV. to take up the work, and he set about it with vigour. Then Colbert arrived, and as he was eager to control everything he took charge of the operations and set aside Levau. He arranged a competition for designs, and Bernini, the Roman sculptor, was appointed judge. Afterwards Perrault's design for a façade was adopted. It has been ascertained by M. Batiffol that it was Colbert's intention to make a retrograde movement by imparting to the palace some of the characteristics of a feudal fortress. For that purpose he intended to have it surrounded, or at least in part, by a moat. So shrewd a man may have anticipated the outbreak of forces then latent in France, and which were kept under until the time of the Revolution. Louis XIV., however, became fascinated with the creation of Versailles, and grew indifferent to what happened at the Louvre. Instead of being a royal residence it was given up to a host of dependents of various kinds. It would be called an artistic colony owing to the number of painters who obtained rooms. In the open spaces sheds of every description were allowed to be set up. The tenants were not careful and the building suffered in consequence. Everything was neglected until in 1750 the Marquis of Marigny obtained powers to evict the whole miscellaneous population. But he had not the money necessary for restoration, and the Louvre remained uncared for until the first Consul in 1803 gave the architects Percier and Fontaine a commission to effect some restorations and connect the buildings with the Tuileries. That Colbert commenced a moat there is no doubt, but it was never completed, and it can be of no importance to Frenchmen to ascertain how far the excavation was made.

The destruction of Balavil House, near Kingussie, recalls a controversy of the eighteenth century which was never decided and probably never will be. The house was erected for James Macpherson, who professed to translate "The Poems of Ossian," but who was supposed to have composed them, or to have had only a very unsubstantial basis for ascribing them to a mythic poet. Originally Macpherson was a poor man, and his first appointment was as schoolmaster in the village of Ruthven. Some fragments of ancient poetry which he collected in the Highlands received approval of competent judges. He secured the patronage of Lord Bute, who was then powerful, and was enabled in consequence to produce the epic poems "Fingal" in six books and "Temora" in eight books. His name was found on the title-page of various other works, but he wisely did not depend on literature alone for success. He obtained the post of Surveyor-General of the Floridas, and on his return to England was fortunate in becoming agent to the Nabob of Arcot. That was a very lucrative office, and he was able to purchase the property and to erect the house which was destroyed on Christmas Eve. One of his daughters married Sir David Brewster, the physicist, whose son inherited the estate. The evidence for and against the authenticity of the poems as works of Ossian forms a remarkable collection, and suggests the possibility of cases arising which no manner of investigation can reach. Wordsworth condemned them because of their inaccuracies, and maintained that so early an observer as Ossian was likely to describe mountainous scenery in such a way that while everything was distinct nothing was defined into absolute independent singleness. In Macpherson's work it is exactly the reverse, for "everything not stolen is defined, insulated, dislocated, deadened, yet nothing distinct." There was a time, however, when the peculiar quality of the poems appealed to British and German painters. Macpherson may therefore have aided in the revival of the ancient Germanic legends of which the triumph is seen in Wagner's operas. What is more remarkable is that Napoleon with his southern temperament was an enthusiastic admirer of the Ossianic poems as given by Macpherson.

ILLUSTRATIONS.

LIVERPOOL CATHEDRAL: INTERIOR VIEW FROM CHOIR.

IN November last the Liverpool Cathedral Committee decided to proceed, in the first instance, with the main fabric of the building, including the choir and the cross of the transepts. This part will accommodate a congregation of 3,500, and the cost will approximately be 240,000*l*. The view we give this week suggests the appearance which the interior will present. But with so important a structure it is to be hoped that if alterations should appear desirable to the architects no obstacles will be offered by the committee. Liverpool has now an opportunity of possessing a cathedral which will be worthy of its greatness, for although the diocese is not a quarter of a century established, Liverpool was, and is, one of the commercial capitals of the universe. Everyone must therefore wish Mr. G. F. Bodley, R.A., and Mr. G. Gilbert Scott godspeed in so onerous an undertaking, and one which is sure to exercise an influence on architecture and other arts in England.

HOUSE AT BANSTEAD, SURREY: NORTH FRONT.

MIDLAND HOTEL, MANCHESTER: CORRIDOR TO STATION.—STAIRCASE TO CONCERT-ROOM.

A LARGE building affords opportunities to admit a competition between the products of nature and those of art or industry. The history of architecture shows that in many places it was not possible to combine the two classes of materials. As a consequence there was a prejudice in favour of one or the other. In modern times, owing to the progress of applied science, we possess materials for use in building which have not only qualities similar to those admired in the substances which formed part of the earth's crust, but others in addition which are adapted to the necessities for which they are employed. Fergusson, who had a predilection for stone, especially in blocks of large size, allows that when bricks are beautifully moulded or made of precious clay we should look with more respect and admiration on an edifice erected with them than on one of stone, especially if the latter is the less costly. In all such cases it would be absurd to claim a victory over nature. When men are most successful in such competitions they are only realising in one way the profound truth expressed by Shakespeare, "Nature is made better by no mean, but nature makes that mean; that art which adds to nature is an art which nature makes." In the new hotel in Manchester Mr. Trubshaw has enabled architects and the public to witness several of those competitions or contrasts. We have already described the building at length, and on this occasion we recur to it in order to point out how markedly it exemplifies the rivalry which can be attempted between nature and art, to the advantage of architecture. We have selected only one instance of the application of the faïence of the Burmantofts Company as a subject of illustration. It is employed for the walls and vaulted roof of the carriage approach, as well as for the corridor from the station to the winter garden. It is also seen in flower boxes of the latter, and in that way insures a desirable unity of appearance. A product that is akin to the faïence, the "Burmantofts vitreous glazed terra-cotta," which has the advantage of being non-absorbent, easily executed and permanent in colour, has been utilised to the extent of 80,000 cubic feet. The suitability of the material was not the only quality which led to its adoption. Expedition in production was essential. The Burmantofts Company entered into a contract to supply a large quantity in a very limited time, and not only was it carried out, but a liberal bonus was earned in consequence. Mr. Trubshaw has also been well advised in the adoption of marble of various kinds. The grand staircase leading to the concert hall has steps of white marble, and a massive handrail of verd antico and other green marbles, with a balustrade on the first floor landing. The walls of the staircase and the halls on each floor are faced with marble up to the ceiling, a dado of rich green being used, and for the overwalls carefully selected Greek skyros relieved with vert campan. These slabs have been sawn face to face, and the markings arranged so as to produce an artistic effect. The arches are formed of the same marbles used alternately, and the columns have richly-carved capitals. This work has been executed by Messrs. J. & H. Patteson, of the Marble Works, Oxford Street, Manchester, who have also fixed a dado of white Sicilian marble in the bedroom corridors on each of the five principal floors.

HOUSE AT WOLVES NEWTON, MONMOUTHSHIRE.

THIS house has been built on a site overlooking the valley towards Abergavenny and the Sugar Loaf mountain, a distance of about twenty miles. The entire walls are of stone, and are externally covered with white rough cast. All the external woodwork, main staircase, hall and interior of billiard-room (which has an open timber roof) is of oak. The bays to dining-room and staircase are in Forest of Dean stone. All the window-frames are of massive oak construction, fitted with wrought-iron casements and fittings. The roofs are covered with red Bridgwater tiles. A special feature is made of the entrance hall, the staircase being carved to a special design, and the walls panelled to within 2 feet of the ceiling and finished with a stone frieze and bronze pins. This ceiling is panelled out in oak with wrought-iron electric pendants. As the ground falls rapidly to the valley it is proposed to treat the garden by a series of terraces and Dutch gardens. The contractors were Messrs. E. Turner & Sons, of Cardiff, who were also the contractors for the other buildings and cottages in connection with this work. Messrs. Alger & Sons, of Newport, were the contractors for the electric lighting. Mr. A. Jessop Hardwick, of Kingston-on-Thames, is the architect.

CATHEDRAL SERIES.—CHESTER: VIEW FROM SOUTH-EAST.

WORKMEN'S COMPENSATION IN FRANCE.

WHATEVER may be the defects of our Workmen's Compensation Act, it cannot be said that sufferers from accidents have their compensation delayed or set aside by any action of the surgeons called in. There may be differences of opinion about the length of time which must elapse before an injured man attains his former vigour; but the records of the Courts show that physicians and surgeons carry out their duties with the single desire to see justice done between the parties. It is fortunate also that neither law, etiquette, nor official circumlocutionism in any way hampers the efforts of practitioners. A case which was before one of the Courts of Paris last week will suggest the extent to which hierarchical arrangements can appear to create an opposition to justice which no ordinary workman can overthrow A workman's arm was seriously injured by broken glass. A doctor was instructed by one of the Courts to make an examination. An allowance of less than one-half his wages was provisionally awarded. There was a second examination ordered, and the conclusion was that he was shamming. His allowance was further reduced, and the man was expected to live on 45 francs a year. Some friends, however, who knew that the arm was useless, consulted one of the chief surgeons of Paris. His opinion was that there was an absolute incapacity of ever using the arm owing to the extent of the lesion. He was asked to draw up a certificate which could be produced in court, and replied that it was out of his power, for such a certificate ought to be given by the surgeon who first treated the man after he was brought to the hospital. The man went to the hospital, but the official who had attended to him no longer belonged to the staff, and the only record of his case was an entry in the register of a wound on the eyebrow. Then an eminent consulting surgeon was sought out. He also affirmed that the arm was useless, but he likewise dared not give the desired certificate, because from his position as an expert it would be necessary to have an order from the Court to make the examination The man, however, was handed a recommendation to another specialist. Eventually the Court decided that re-examination should be made by the first surgeon in one of the chambers of the Court. It was described as resembling the putting a man to torture in the fifteenth century. The result was a decision that the man had not been feigning weakness, and his allowance was increased from 45 to 450 francs a year. It is almost a proverbial saying that things are better managed in France than in this country. But what would become of the British workman and his Compensation Act if French procedure were to become imperative?

BISHOP ALCOCK (1472-1500) AS A BUILDER, AND HIS WORKS.

By J. K. FLOYER, F.S.A.

IT is often assumed that the origin of all old churches and buildings is lost in obscurity, and it is undoubtedly the case that the names of most of the architects of the Middle Ages have perished; but here and there one man or another, who left behind many buildings as the result of his own enterprise, left also traces by which he might be recognised and his labours estimated by posterity. It must always be, at this distance of time, difficult to apportion the amount of work which fell to the originator and financier, the designer, the master workman or the labourer in the construction of one of the great buildings of the Middle Ages, but we may be sure that the work was less subdivided than it is now, and that especially with those who were responsible for much building, such as Bishops Alcock or Wykeham, they had a considerable part in designing as well as ordering and financing the buildings for which they are given credit.

PORTRAIT OF BISHOP ALCOCK.

Bishop Alcock built in sandstone, in brick and in clunchstone; wherever he went he had stained-glass windows inserted and covered them with certain badges and ornaments by which they may be known.

It has been commonly stated that he was born at Beverley, in Yorkshire, but recent investigations in the Hull records show that his parents lived at Hull, and that he was probably born there in the early part of the fifteenth century, the mistake about Beverley having occurred in the first place by a misstatement in Leland's "Itinerary."* At different periods of his life he held many important preferments, the chief being that he was Dean of the Royal Chapel of St. Stephen, Westminster; Master of the Rolls; Prebendary of Browndeswood in St. Paul's Cathedral, and of South Alton in Salisbury Cathedral. In 1470 he was made a Privy Councillor, and in the following year preceptor to Prince Edward, afterwards known as Edward V., but was deprived of this post on the death of Edward IV., doubtless as being a supporter of the Yorkist cause. He again came into favour on Henry VII.'s accession and held the posts of Lord Chancellor and Comptroller of the Works under him. He was Bishop of Rochester 1472-76, of Worcester from 1476 to 1487, then of Ely until his death In most, if not all, the places in which he resided he left traces of his love of architecture. At least nine of his buildings or parts of them remain.

The principal example of his work which still remains as a memorial of his tenure of the Worcester bishopric is the Priory Church of Little Malvern, in Worcestershire, of which he was looked upon as the refounder. The monks were reported to have dissipated their revenues and to be living "vagabond," and like laymen. The Bishop sent the prior to Battle Abbey and the only four monks that remained to Gloucester Abbey until Little Malvern should be reconstructed, and, it is hoped, their manners mended. He then refounded the convent, repaired the monastic buildings, paid off the debts and changed the dedication from St. Giles, to St. John the Evangelist and St Giles. After this was done, in 1482, the monks were allowed to return. The parts which remain of the priory refounded by Alcock are the choir of the church, a portion of the choir aisle and part of the walls of the south transept. The nave and the monastic offices are now entirely destroyed or partly worked into a neighbouring house The church must have badly needed repair, for few traces of the original building remain; and much the greater portion of the existing structure is the work of Alcock. He also appears to have filled most of the windows with stained glass, of which fragments remain. In Habington's Survey, made about 1650, there were in the east window the figures of Edward IV. (Alcock's first patron) crowned, and his queen; of Edward V. (Alcock's pupil), Richard, Duke of York, the two "murdered princes," Elizabeth, eldest daughter of the queen, and behind her her sisters; and in the last pane Bishop Alcock praying for them all. Above were the royal and other arms, including Alcock's own.

Of these, only two figures and part of a third remain, and the shields of arms, Alcock's being on the right side. The arrangement of the remaining glass appears to have been changed. Three other windows remained in Habington's time, with stained glass and Alcock's arms. There are also some stalls remaining of about the end of the fifteenth century, and Habington tells us that one of them had on it, as well as Alcock's arms and some other blazons, his characteristic device of the "Five Wounds" of Our Saviour.

The Priory of Great Malvern was also largely added to in Bishop Alcock's time. The fabric of this is chiefly of two periods, Norman and Late Perpendicular. The Perpendicular portions so closely resemble in style and character Alcock's additions to Little Malvern, that though there is little direct evidence it is fair to assume that they were begun about the same time and built under the same direction Sir Reginald Bray is credited with the reconstruction of part of Great Malvern, but Alcock added one if not more of the large stained-glass windows that formerly existed there, and of which so many interesting fragments remain.

Habington describes as existing in his time (circa 1650) in the windows of the nave clerestory of Great Malvern Priory portraits of benefactors, and in the fifth window the kneeling figure of Alcock with his arms. Also in the north choir aisle there were set forth the Paternoster, &c, and the Seven Sacraments issuing from the wounds of Our Saviour, in which perhaps we may recognise one of Alcock's favourite devices already mentioned. Alcock has been credited with the refoundation of the College at Westbury-on-Trym, in Gloucestershire; but this belongs rather to his predecessor, Bishop Carpenter.

His work in his own cathedral of Worcester was not on an extensive scale, and has now entirely disappeared. He placed a stained-glass window at the east end of the vestries (recently converted into St. John the Baptist's Chapel) In the first pane were the bishop's own arms; in the second the figure of Alcock himself in pontificals, with his clergy, invoking St. Mary and St. John; and in the third a mitred prior (the Prior of Worcester was mitred), with his monks, praying for the bishop; and in the fourth pane were the arms of the priory, ten torteaux, and in a quarter gules Our Blessed Lady holding in her arms Our Saviour. This is probably the earliest example of the addition of the canton with Our Lady, which was, after the Reformation, revived as the arms of the Dean and Chapter.

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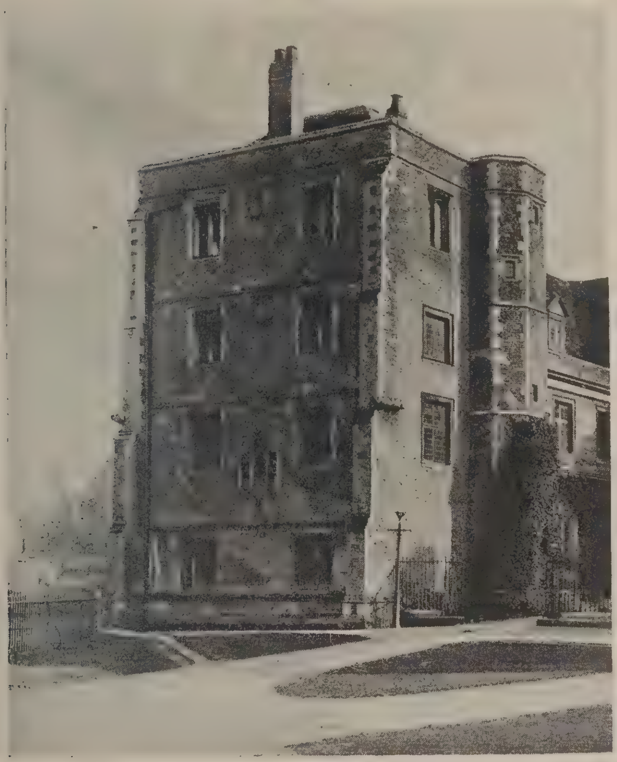
* See Boyle in *Notes and Queries*. 1899. 9th series, vol. iv. p. 241.

The subjects of this window seem to have been chosen by Alcock, and St. John the Evangelist to have been generally recognised as his patron saint. After the ceremony of his enthronement at Worcester, before the banquet began, a contemporary account says that, "When the Lorde and the hall were served of the furst couvre immediately ther came in oon like a doctour clothyd in scarlet standyng afor the tabel seying a colacijon made by metre in rhetorical terms, the theme triplicat, first of John ye Baptist, second of John Evangelist, third of John ye Bishop present. . . ."*

There are indications that he was a benefactor to the cathedral in other ways. The old woodwork of the choir was removed in 1551, and restored again in 1556. It was much altered in the process and in subsequent removals. Green describes the bishop's throne existing in his time (1796) as a "plain, respectable and characteristic object," but much old and fine carving remained about the seats, pillars and cornices, and on the cornice of the last stall, in a shield, were the "Five Wounds" of Christ, which suggests Alcock's connection with some of the woodwork. The adjoining shields bore also emblems of the Passion, which would not have been carved in post-Reformation days.

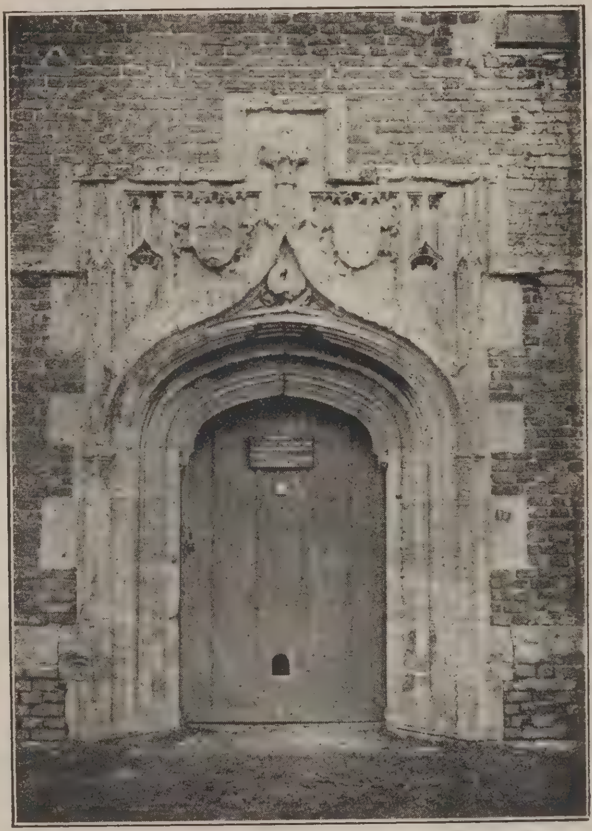
Alcock officiated at the baptism of Arthur, eldest son of Henry VII, in 1486, at Winchester, and there is some evidence to show that, in conjunction with Sir John Savage, he erected a font in Elmley Castle Church, in Worcestershire, to commemorate this event, Alcock's connection with it being attested partly by the device of the Five Wounds being cut on it.

The font has in addition the ragged staff of the Earls of Warwick, lords of Elmley Castle; two badges of Henry VII., who became lord of that manor in 1487; the arms of John Savage, whom Henry VII made steward of the manor; the two plumes of the Princes of Wales, and one other device. The association of the persons represented by the badges is so close as to suggest that the Five Wounds marks Alcock's connection with the erection of this font sometime between 1490-1500.



BISHOP ALCOCK'S TOWER, ELY PALACE.

On his translation to Ely in 1487, two years after the accession of Henry VII., he carried on his building operations upon an even more extensive scale. Stone is scarce in the fens, and all but the largest buildings must at this time have been made of daub and a little timber. Alcock had no doubt seen Lollards' Tower at Lambeth, then a new brick building, and on his way to his native Hull or to Lincoln would see the Castle of Tattershall, then not fifty years old. Though examples of brickwork are said to exist even as early as the thirteenth century, the art had almost died out in post-Roman times, and Alcock's buildings must have done a great deal to stimulate the revival of it which was beginning in his day. The bricks of Tattershall are traditionally said to have been brought from Flanders, where the art never quite became extinct. The magnificent architecture of this building, the beautifully worked bricks, the extraordinary closeness of the joints, and the remarkable solidity of the tower certainly show a more advanced state of the art of brickbuilding than has ever been reached in England since, and point to the introduction of foreign workmen. Alcock rebuilt or repaired, we are told, all his episcopal manors, the bishops of Ely having at this time eleven or more. The portions that remain of his work at Ely and at Downham, three miles distant, are of brick, not apparently moulded carefully as by the masters of the art at Tattershall, but varying in length and thickness to as much as an inch, and suggesting that the clay was roughly made into long bars and cut off in lengths by a measure carelessly used.



DOWNHAM GATEWAY.

Alcock's brickwork at Ely, Downham, and Jesus College, Cambridge, has the same characteristics. It is always laid in what is known as the English bond, with a row of headers alternately with a row of stretchers, like the old Flemish buildings at Bruges and elsewhere, and the coursing is only interrupted by a diagonal pattern in black headers. All these buildings are dressed with stone. The remaining stone doorway at Downham is identical in pattern with that leading from the first into the inner court of Jesus College.

The device of the two cocks with a mitre between them, taken from his own arms, and the *rose-en-soleil*, the badge of Edward IV., are worked into all Alcock's later buildings. The north-eastern tower of the episcopal palace at Ely is a fine example of early brickwork The roof of the lower room is groined, and the boss in the centre has Alcock's arms, and on the other bosses are the familiar devices of the oak-leaf and the *rose-en-soleil*, but this without the crucifix which usually occupies the centre of this. Perhaps Alcock severed the badge into two parts, using the *rose-en-soleil* in some places and the crucifix in the form of the Five Wounds only in others.

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* *Antiq. Repert.* vol. iv. No. x. p. 237, *apud* Green.

Externally the brickwork is relieved with the black diagonal pattern and with a stone dressing A group of three niches in stone is on the north face, with some good sculpture below. On the same side of the upper floor are the bishop's arms. What other parts Alcock may have built of the Ely Palace have been destroyed and given place to more modern buildings.

Only three miles from here, at Downham, was another bishops' manor-house. This was pulled down and rebuilt by Alcock. Nothing remains now of the rebuilt palace but part of a gateway, a kitchen and a few other fragments The stepped gable of the enormous kitchen suggests a Flemish design possibly introduced by foreign brickmakers, and the gateway, originally of a T-shape, has one carved doorway remaining of stone set in brickwork. It has been already remarked that the design of this is exactly similar to that leading to the inner court of Jesus College, Cambridge. Two shields are worked into the door heading, one with the arms of the see of Ely, the other of Alcock, though in the Downham door one of the shields is gone. A small piece of groined roof remains inside the gate-house at Downham. The distance between this and the kitchen, and the traces of foundations which may be seen under the grass in dry weather, show that the palace built by Alcock was of very considerable size, and judging by the number of times he held ordinations there, he seems to have made it his chief residence. A tile was dug up with the device of a cock on it, which may have been made at the Malvern tileries for the bishop.

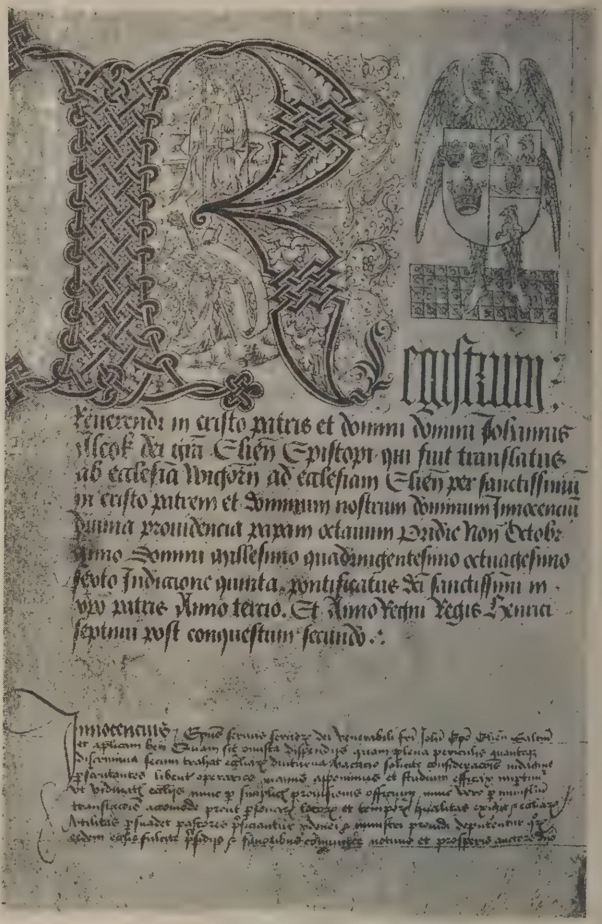
The bishop also very likely did some work at the palace at Wisbech, but this cannot now be determined. The church of SS. Peter and Paul in that place bears traces of his building in some emblems of the Passion on one of the beams and some fragments of old stained glass

Wilburton, in the Isle of Ely, which has been attributed to the bishop, seems, from an inscription formerly existing under a niche in the east wall of the church—"Thomas Alcock istum locum refecit"—to be rather the work of the bishop's brother or nephew, who is said to have been Archdeacon of Ely and Rector of Wilburton.

At some period during the fourteen years' occupation of the see of Ely he turned his attention to his native place of Hull, and refounded the grammar school there and a chantry which was maintained in a chapel on the south side of the nave of Holy Trinity Church. No traces of the buildings of these institutions remain. The school was rebuilt in 1583-85, and the chapel of the chantry was destroyed about the time of Edward VI.

But Alcock's greatest work was the foundation of Jesus College, Cambridge. The method employed with regard to the buildings was certainly one which in the present day would receive the warmest condemnation. He found the nunnery of St. Rhadegund, Cambridge, much out of repair in 1487 and the discipline much relaxed, and in consequence obtained a patent for its dissolution. He founded Jesus College in its place, using for the most part the same buildings They were doubtless out of repair, but the portions that remain show that they were of the twelfth century, of beautiful proportions and sculpture, built in stone, and of a much more admirable style than those which replaced them. Alcock, however, ruthlessly adapted them to his new purpose. He cased many of the old stone buildings in brick. The great chapter-house door was built up and concealed with a brick wall, and a portion was cut off the church to make a master's lodging. The results must have looked very trim and neat; the buildings are eminently serviceable, and age has now added a mellowness which softens the difference of the two styles, but a great deal that was good must have been lost at the time. Alcock is very prominent in the existing buildings with the cocks and other devices. On a bench-end on one side of the chapel he is represented kneeling, with a dove coming out of clouds above, much in the same way in which the first initial of his Ely register portrays him. On the canopy over his head is a cock, and on the front of the same bench-end another cock with a globe, a rebus used by the family and found also in Wilburton Church.

Jesus College, Cambridge.



Registrum
Reuerendi in cristo patris et domini domini Johannis
Alcok dei gra Elien Episcopi qui fuit translatus
ab ecclesia Wigorn ad ecclesiam Elien per sanctissimu
in cristo patrem et dominum nostrum dominum Innocenciu
diuina prouidencia papam octauum Pridie Non Octobr
Anno Domini millesimo quadringentesimo octuagesimo
sexto Indicione quinta, pontificatus sui sanctissimi in
xpo patris Anno tercio. Et Anno Regni Regis Henrici
septimi post conquestum secundo.

Initial from Bishop Alcock's Ely Register.
(Alcock at the feet of St. Etheldreda.)

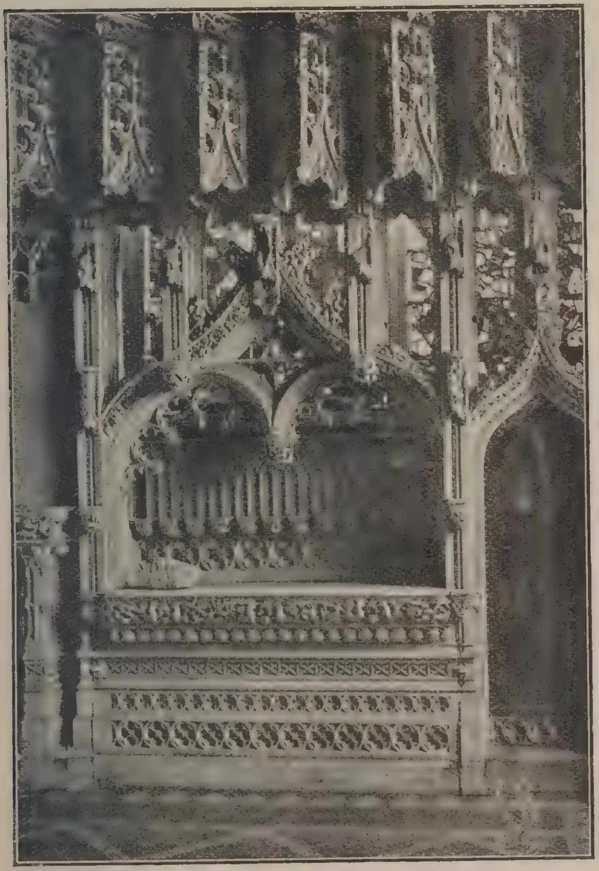
The arms now used by the College are those of Alcock, and the use of them was granted in 1575; but the original College seal was the Virgin and St. John on either side of Our Saviour, under canopies, and in the base a shield bearing the Five Wounds, the whole design being given in 1497 by Alcock to difference his new foundation from St. Rhadegund's Priory.

During his life at Ely Alcock continued to enjoy royal favour. In 1494 he assisted at a great ceremony when Henry was created Duke of York, and was probably instrumental in interesting this king in the churches of Great St. Mary Cambridge, and Great Malvern Priory. The church of Great St. Mary was either badly in need of repair or was insufficient for the requirements of the University. The foundation-stone of the present building was laid on May 16, 1478, and the rebuilding scheme was much promoted by Alcock, who made the largest money contribution of 70*l.* to it Henry VII. gave the next largest—that is, 6*s.* 8*d.* less. The work went on very slowly, and money was difficult to get after the first two years. The whole building was not completed until 1519, forty-one years after the laying of the foundation-stone, and the tower until a century later still. It would seem, however, that some portion of either the old or new church was used for worship all through the time of building, for in 1488 Bishop Alcock notes that he preached a "bonum et blandum sermonem" in the church of Great St. Mary at Cambridge, which began at one o'clock in the afternoon and went on until past three o'clock.

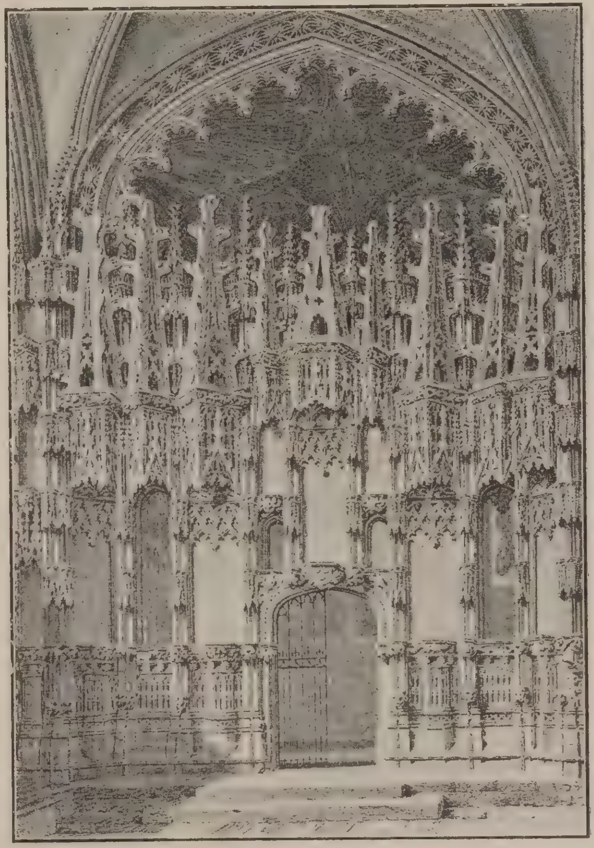
Towards the end of his life he erected his most beautiful and elaborate work—that is, his own mortuary chapel—in the north-east corner of Ely Cathedral. The material is clunch-stone, and the whole decoration is designed as a series of niches, the pedestals being much carved and the canopies worked into square pinnacles of beautiful workmanship, though slightly heavy in design. Almost every available surface or corner is enriched with the most elaborate carving, the cornices and fillets being deeply undercut, and nearly all Alcock's characteristic devices are introduced—the cocks and mitre, the vine and oak-leaf, the two snails and the *rose en-soleil*, but not apparently the "Five Wounds" The ceiling is of beautiful fan tracery, with a pendant boss in the centre.

On the north side is the tomb, and now placed above and behind it is a fragment of the effigy, said to be the bishop's, but so mutilated as to be unrecognisable. Behind the tomb is a window containing the remains of stained glass placed there by Alcock, for among the fragments can still be traced two cocks' tails, parts of three crowns (the arms of the see), the oak-leaf, the double rose of Henry VII., the cross between five martlets of Richard II, assumed as the supposed arms of this king's patron saint, Edward the Confessor, and another shield of arms. Three complete figures of angels also remain. A contemporary stone was discovered some years ago, and is now let into the east wall, which records the building of the chapel by Alcock, with the date 1488. Alcock died at Wisbech on October 1, 1500, and was buried in this chapel.

Of the books written by Alcock five were printed in his own time and some reprinted later. Others still remain in manuscript. The early editions, being produced by Wynkyn de Worde and Pynson, are very rare. The most popular was "Mons Perfectionis," or the "Hylle of Perfection" Alcock was a man of great piety and ability, and earned the commendation even of Bishop Bale, an enthusiastic Protestant writer He occasionally lent himself to a certain degree of humour, a trait chiefly preserved to us in his inordinate love of punning on his name. In the days of rebuses and badges it might be expected, perhaps, that a cock should be placed to mark his connection with his buildings; but one who was twice Lord Chancellor and Bishop successively of three sees might perhaps be expected to produce a loftier witticism than to issue an episcopal charge as a cock crowing to his fellows in council at Bernwell (pronounced Barnwell), and to preface the printed edition of it with a picture of himself in his pulpit with a cock on each side of him.



BISHOP ALCOCK'S TOMB, ELY CATHEDRAL.



ALCOCK'S CHAPEL, ELY CATHEDRAL (OUTSIDE).

It probably became henceforth a nickname among his clergy. Barclay, a contemporary monk of Ely, and an author who gained much reputation by his "Ship of Fools," wrote a eulogy of Alcock in one of his "Eclogues," a quotation from which may fitly close this account :—

> Yes, in his dayes a cocke was in the fen,
> I knowe his voyce among a thousand men.
> He laughed, he preached, he mended every wrong;
> But, Coridon, alas! no good thing bideth long.
> He All was a cock, he wakened us from slepe,
> And while we slumbered, he did our foldes kepe.
> No cur, no foxes, nor butchers dogges wood,
> Could hurt our fouldes, his watching was so good.
> The hungry wolves, which that time did abounde,
> What time he crowed, abashed at the sounde.
> This cocke was no more abashed of the foxe
> Than is a lion abashed of an oxe.

There is a good deal more of this. The poem was clearly written after Barclay went from Ely to be a monk of Canterbury, but when he returned to Ely on a visit, he says :—

> There saw I his tombe and chapel excellent ;
> Our parishe church is but a dongeon
> To that gay churche in comparison,
> When I sawe his figure lye in the chapel side, &c.

Barclay goes on to describe the general lamentation on his death :—

> The pratie palace by him made in the fen ;
> The maidis, widowes, the wives and the men
> With deadly dolour were pearsed to the hearte
> When death constrayned their shepherd to departe.
> Corne, grasse and fieldes, mourned for wo and payne,
> For oft his prayer for them obtayned rayne.
> The pleasaunt floures for him faded eche one,
> The okes, elmes : every sorte of dere
> Shrunk under shadowes, abating all their chere.
> (Warton's *Hist. of Eng. Poetry*, ii. 250-1.)

VICTORIA AND ALBERT MUSEUM.

SEVERAL additions of considerable interest have recently been made to the art collections in the Victoria and Albert Museum Two plaster casts have been added to the historical collection of reproductions in plaster from the antique. The first is a copy of the marble figure known as the "Apollo delle Terme." This figure was taken from the Tiber at Rome in 1891, and is now in the Museo delle Terme ; it is considered to be a Græco-Roman copy of a work of the Phidian period. The second cast represents a kneeling youth, the head, unfortunately, missing. The marble original of this exquisite statue was found at Subiaco in 1883, and is now preserved in the same musum ; it is Attic work of the second half of the fourth century B.C

For the section of furniture and woodwork three specimens of wood-carving in oak from the district of the Rhine have just been acquired. The museum has hitherto had but very few representatives of this type of art, and these three specimens will be welcome to students of wood-carving. The pair of doors have the upper panels carved with floral ornament and roundels in the centre, formerly containing busts in high relief, now unfortunately lost ; the panels beneath are of linen-fold pattern. These doors are of the Transitional period, and date from the first half of the sixteenth century. Above them is hung the third specimen, a towel-roller, which probably comes from some church or religious house ; it is also of the same period and bears traces of Gothic feeling mingled with Classic ornament. In front is the sacred monogram within rays—the symbol of St Bernardino of Siena—supported by two angels ; above them is the Almighty Father with the Holy Spirit in the form of a dove. The angels are interesting because they bear a very strong resemblance to those found on Cologne embroideries of this date.

To the generosity of Mr. J. H. Fitzhenry is due the addition of a series of tiles of the greatest interest to the collection of French faïence ; they are stated to date from the fourteenth century and come from St. Julien de Brioude (Haute-Loire) ; on an enamel surface is painted Gothic leafwork encircling shields of arms. The same gentleman has given a small collection of French encaustic tiles decorated with figures quaintly drawn and shields of arms. Five of them date from the fourteenth century, and the sixth is of the sixteenth century.

Mr. Fitzhenry has also added by gift to the collection of terra-cotta work in the museum a large group of the Virgin and Child, belonging to the series of terra-cotta reliefs and statues which the German authorities assign to the master who worked in the Pellegrini chapel in S. Anastasia at Verona. This group has been terribly ruined, not only through breakage and repair, but also through the removal of the colour and white preparation.

In the Persian ceramic court of the cross gallery may be seen a large glazed earthenware vase, admirably painted with mythical lions and birds in the Chinese style This very fine example was probably painted by the Chinese at Ispahan at the Court of Shah Abbas II. in the early years of the seventeenth century, and has been presented to the museum by Mr. C. M. Marling, now British agent at Sofia.

A rearrangement of the pewterwork in the museum has just been made, and the opportunity has been taken of separating the English specimens from the foreign. Certain additions to this section may also be noticed, among them being a pair of "pricket" candlesticks from Dorcheim Church, in Hesse-Nassau, and a large dish and plate, both bearing the arms of the Worshipful Company of Cordwainers of London, by whom they were presented to the museum. In this same court should be noticed a very important addition to the museum collection of chalices ; it is an English silver parcel-gilt chalice and paten of the pre-Reformation time, with London hall-mark for the year 1527-28. The engraving is rude, and the chalice has been repaired from time to time. The contents of a desk-case close by deserve careful examination ; it contains a small collection of silver-gilt jewels of the fifteenth and sixteenth centuries from South Germany. In the same case there are also some carved mother-o'-pearl medallions, which seem to have found great favour in Germany at the end of the fifteenth century ; most of them are now considerably worn and rubbed, but the medallion carved with the subject of St. George and the Dragon and the large shell at the top of the case, which has been in the museum for many years, are, however, in a splendid condition, and show great artistic talent.

In the gallery near Lord Leighton's cartoon, "The Arts of Peace," a selection of drawings lately acquired for the National Art Library is now exhibited for the first time. These include two original drawings for illustrations in the Moxon edition of Tennyson's Poems, by Sir J. E. Millais, P.R A. ; one for Dickens's "Little Dorrit," by James Mahoney ; one for "Once a Week," by F. W Lawson ; and one, "Mrs. Bardell in Mr. Pickwick's Arms," by "Phiz" (H K Browne), for the "Pickwick Papers." Frank Barnard is represented by a tinted study of "Alfred Jingle." Specimens are also shown of drawings made for *Punch* by John Leech (pencil studies, each with a proof from the finished wood-block), Charles Keene (pen drawings), and George du Maurier (pencil studies from the artist's sketch-book, pen-drawings, and proofs from the wood-blocks) On the walls of the National Art Library reading-room are also displayed a set of original drawings and tinted and working proofs of Randolph Caldecott's picture-books and *Graphic* illustrations. It should be noted that the library possesses other works of this nature, which can be seen by readers on application, the purpose of the present exhibition being to give an indication of the nature of the collections in the section of prints and drawings.

SMALL FIRE STATIONS OF LONDON.

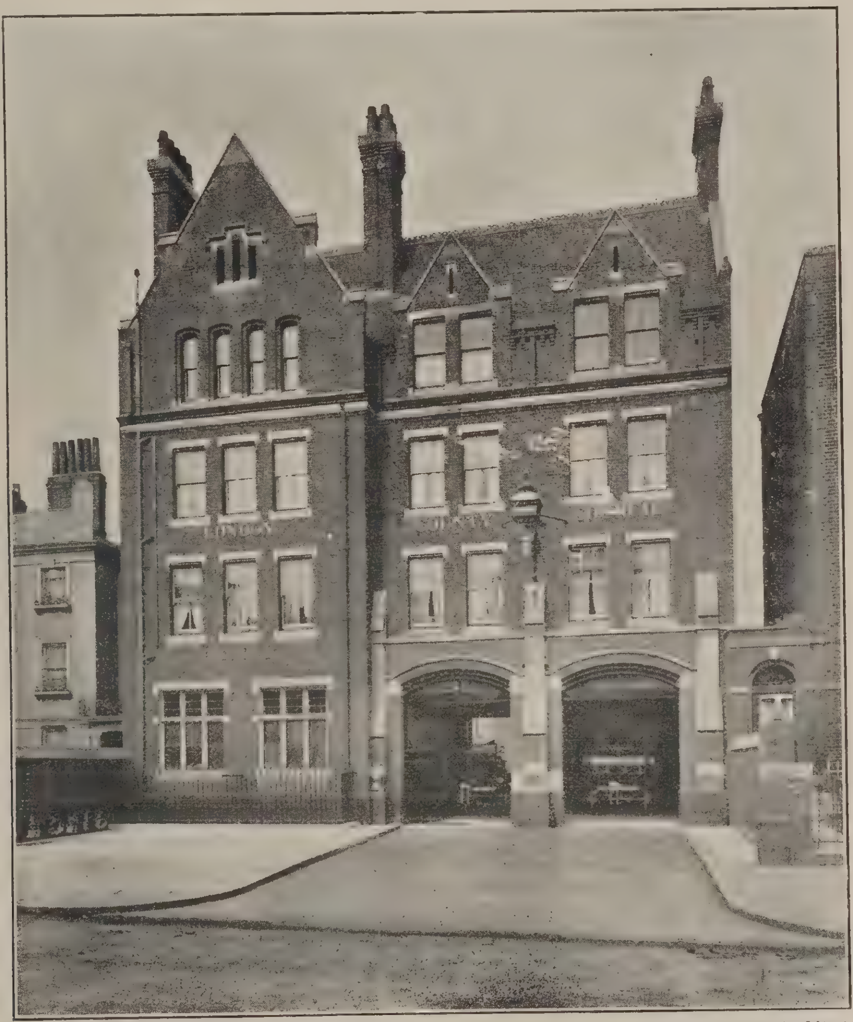
THE agency employed for calling attention to fires in some of the smaller provincial towns is so imperfect, the inhabitants generally consider that a fire is not so annoying as the efforts to suppress it. In order to summon the members of the brigade, who as amateurs live in ordinary houses and far apart, it is necessary to send messengers through the streets with discordant trumpets or pneumatic callers. If, as usually happens, a fire breaks out during the night-time the commotion is sufficient to awaken everybody, and many find trouble in again falling to sleep. In London there are about four hundred calls to fires every month, and it is easy to imagine what the consequences would be unless an improved system of providing firemen was always in operation.

In the Metropolis, or county of London, which for fire brigade purposes has an area of not less than 130 square miles, the establishment of stations each possessing an adequate supply of men may be regarded as the basis of the present arrangements. It is essential that each station should be adequately capacious to contain the steam-engines and all the other aids and appliances to them. They must also serve as barracks and as places of instruction, where various exercises corresponding with those which have to be gone through at a real fire are performed. A fireman's drill is not easily mastered, and it is only by repetition that the mechanical readiness demanded on most occasions is reached. Each station is in connection with other branches as well as with the fire-alarm posts, and in some cases there is communication between a great many of the buildings and houses In America the system of communication has attained an elaborateness which is remarkable, and sometimes the engines are despatched within a minute of the time when the news was transmitted.

Palatial buildings impress those who see them with the importance of the means adopted for the security of the city or town in which they are placed. They may be compared to an army concentrated in a few positions But as time is of the utmost importance in dealing with fires, it has been found advantageous to have in addition fire stations with fewer men, but capable of combating the majority of local outbreaks. Telephonic communication also enables assistance to be summoned if the local defenders are not sufficient to cope with the danger.

We represent in the present number stations in Islington, Highbury, Edgware Road and Clapham, which are sufficiently suggestive of the character of the buildings lately erected. But in all the districts, from Battersea to Whitechapel, fire stations are to be seen. They are all severely suggestive of business purposes, for not even the range of buildings forming the headquarters of the brigade can be considered as costly examples of architecture. For that reason many of the buildings are worth the attention of authorities of provincial towns. The expenses which a fire department will entail are imagined by some people to be enormous. In London the brigade does not cost the people more than 1¼*d* in the pound, and in most urban districts an efficient service could be obtained at no greater expense than ½*d.* in the pound. But it is assumed that in the first place a palatial structure is required for the men, and in consequence in many places premises are rented in order to avoid expense, although they are most inconvenient and do not aid in organising a thoroughly efficient brigade. The London buildings exemplify what can be done at a moderate cost.

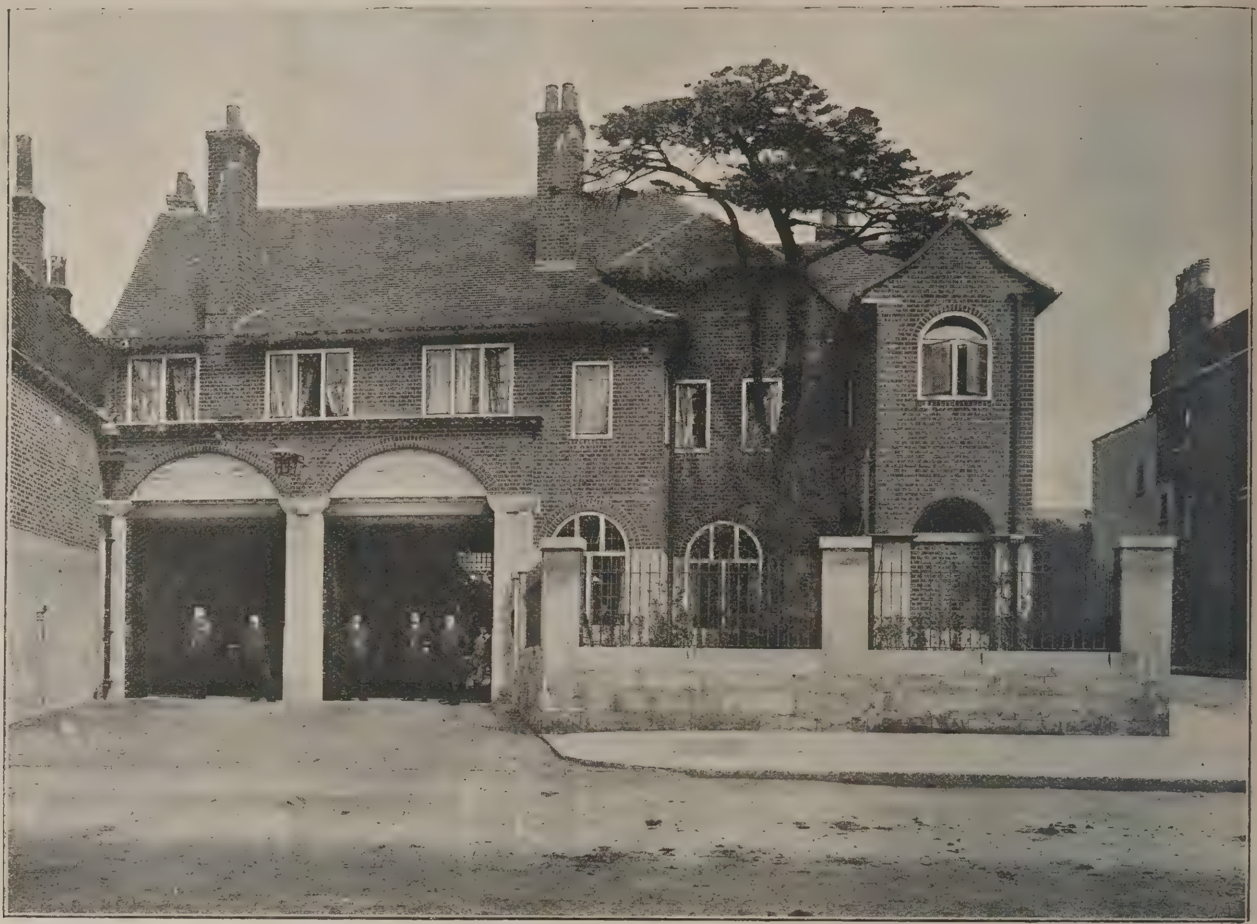
The belief that in the majority of cases fires are caused by the negligence of individuals, and that individuals should suffer in consequence, has been one of the principal obstacles to the providing of means at the public expense for combating fires. It cannot be said that in any part of the country, including the Metropolis, is the organisation for suppressing fires in the best possible condition. As in most other affairs averages have to be considered, and the allowance for contingencies is reduced to a minimum. In spite of the numerous stations which are in London, it is known that catastrophes occur, and lives as well as property are destroyed, owing to some shortcoming in the arrangement which can be traced to excess of economy. The whole system of dealing with fires is in an anomalous state. The Metropolitan Fire Brigade Act only dates from 1865, and it has been said, with that exception, no Bill dealing solely with fire brigades was ever submitted to Parliament up to 1899. The reasons given for the introduction of the latter Bill were "that there was a lack of uniformity of system throughout the country; that many places which ought to have brigades were without them, and that where they existed they were too often inefficient; that local authorities were apathetic, and seldom availed themselves of the powers they possessed; that while *bona-fide* brigades were often scandalously treated in the matter of payment by those whose property they had saved, bogus ones, on the other hand, flourished on the money which they were able to collect from a benevolent but credulous public." From the evidence obtained in connection with the Bill, it was discovered that in England one-fourth the urban districts, or 266, were without brigades. In other words, there was a population of 5,000,000 and property of a rateable value of 1,250,000*l.* sterling devoid of assistance in case of fire Excluding London, it was ascertained that the remainder of the country possessed in all no more than 750 fire escapes. In other words, the country was less guarded against fire than against foreign invasion. With such a state of affairs there is necessarily lacking fire-stations. One of the first duties of local authorities should therefore be to consider the subject. There is little use in appointing captains, lieutenants and other officers for brigades which exist only on paper. The proper way to begin is to provide accommodation for men, engines and appliances, and when the premises are erected, then to secure occupants such as men, horses, engines, ladders, &c. In that way reality will be given to the arrangements, and when fire breaks out in districts it will not be necessary to have a large area of property destroyed and people rendered houseless before it is discovered that the power for dealing with fire was little more than nominal.



W. E. Riley, Architect.

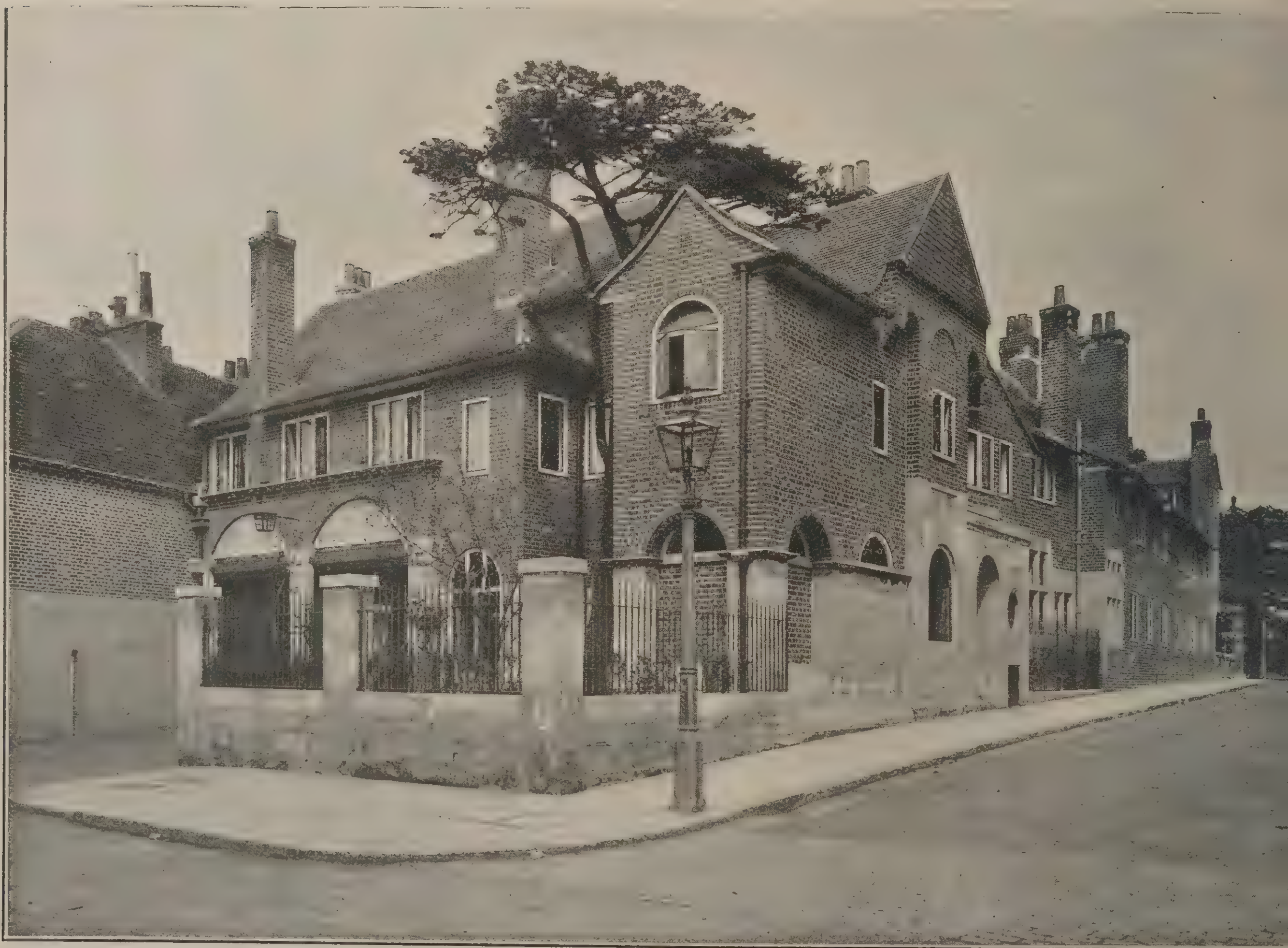
LONDON COUNTY COUNCIL FIRE STATION, EDGWARE ROAD.

Local authorities should also remember that the influence of an efficient organisation against fire can become preventative. This was explained in a paper by Herr Dittmann, of Bremen, in a paper read before the recent congress in connection with the Earl's Court Fire Exhibition. He said :—"The function of the fire brigade is not only to extinguish a fire on its occurrence, but also to prevent as far as possible the outbreak of a fire Although the first mentioned objective, the extinction of fire, may be that which affords the fire brigade the greatest satisfaction, which earns for them the public gratitude, honour and recognition, yet the latter objective, the prevention of fire, is no less meritorious, although it may be pursued without notoriety, scarcely realised by the bulk of the public, and without the recompense of gratitude, recognition and honour." These words deserve attention from all local authorities.



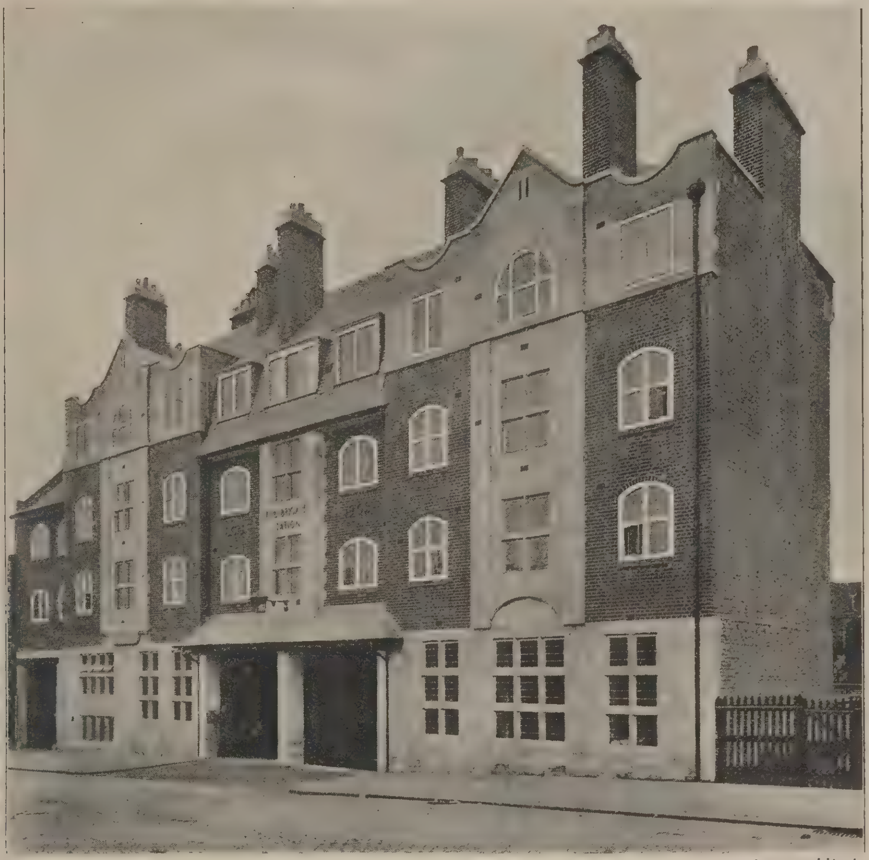
W. E. Riley, Architect.

LONDON COUNTY COUNCIL FIRE STATION, CLAPHAM. FRONT.



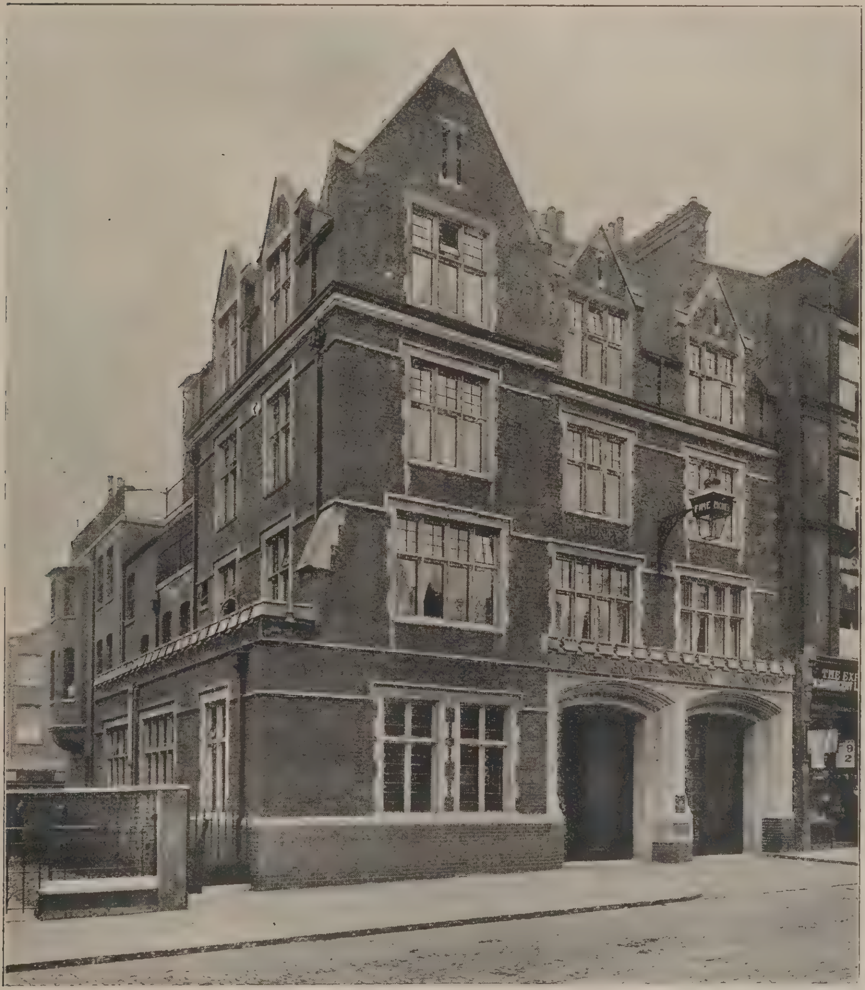
W. E. Riley, Architect

LONDON COUNTY COUNCIL FIRE STATION, CLAPHAM. SOUTH VIEW.



W. E. Riley, Architect.

LONDON COUNTY COUNCIL FIRE STATION, BLACKSTOCK ROAD, HIGHBURY.



W. E. Riley, Architect.

LONDON COUNTY COUNCIL FIRE STATION, UPPER STREET, ISLINGTON.

PLYMPTON GRAMMAR SCHOOL.

IN a letter to the *Times*, Mr. C. L. Eastlake writes :—Devonians in London and elsewhere, British painters, architects and antiquaries, will learn with regret that after Christmas an ancient institution rich in artistic associations is to be disestablished, and that the small, but unique and singularly picturesque building which it has occupied for much more than two centuries will henceforth be devoted to another purpose—if, indeed, it is permitted to exist at all

According to well-known authorities the grammar school at Plympton was founded and endowed by Serjeant Maynard, one of the trustees of the "Eliza Hele Estates" of Fardell in Cornwood. In design the structure is a remarkable instance not only of the survival of Pointed architecture in the seventeenth century, but of an original and clever treatment of the style, almost reminiscent of Italian Gothic

It is raised on a flat-ceiled cloister enclosed by a graceful colonnade Its walls are banded externally with alternate courses of granite and dark limestone. The voussoirs of its arches share the same character. In many other respects the building is noteworthy.

It is, however, on other grounds that the old school deserves attention. In 1715 the Rev. Samuel Reynolds was its headmaster His distinguished son, Sir Joshua, was educated here, and, indeed, was born in the little parsonage which once formed part of the establishment, but is now, unfortunately, pulled down

Another president of the Royal Academy, Sir Charles Eastlake, received his early training here until he was removed to Charterhouse, and Benjamin Haydon, head-boy at the school in 1801, wrote his name on one of its walls when he revisited it only a year before he met with his untimely end.

In much later days (as I well remember) the school was still patronised by local county families, who sent their boys there to be grounded in Greek and Latin. Its next stage was a somewhat humbler one, and now owing, no doubt, to superior educational establishments at Plymouth, it is to be closed altogether

I hope, however, that some effort will be made to preserve the fabric intact. Properly fitted up, it might be converted, for instance, into a good and useful village library and reading-room

It appears that the Marquis of Lothian and the Earl of Mount-Edgcumbe are hereditary governors of the foundation. This should be a sufficient guarantee that the endowment fund may be applied to some object consistent with the retention of a building full of interest both in an artistic and in an historic sense.

PROFESSOR DONALDSON'S MAXIMS.

I.

"ARCHITECTURA est scientia pluribus disciplinis et variis eruditionibus ornata."—*Vitruvius.*

(Architecture is a science arising out of many other sciences and adorned with much and varied learning.)

II.

"Architecture can want no commendation where there are noble men or noble minds."—*Wotton.*

III.

Architecture arises from a common want, is cultivated from the desire of improvement and derives from philosophy its complete development, its object being to erect buildings which shall be durable, fitting and beautiful.

Of the Æsthetics of Architecture.

IV.

Architecture is an aggregate of the fine arts : if alone, she is deficient in expression ; if united to one only she is still incomplete and only acquires all her majesty when combined with both her sisters.

V.

There are three principal gradations of proportion in all objects : thus in nature there are the tall, the short, and the mean between the two ; the strong, the weak, and the mean between the two. So in Classical architecture the same modifications are developed in the æsthetical divisions known as the orders. Strength and robustness are characterised in the Doric, refined and modified as a mean in the Ionic, and attenuated to greater grace and elegance in the Corinthian. The Italian masters, when they classified ancient architecture into five orders, abandoned the philosophy which guided the Greeks in limiting the orders to these three leading expressions of proportion and ornament There can be only three orders of Classical architecture and no more.*

VI.

In architecture the term order signifies properly, not merely the column and its superincumbent entablature, but rather a recognised principle of decoration, a systematic arrangement, a certain characteristic proportion which pervades not only the column and entablature, but also all the other accompaniments in a building, and all the minute details of the several parts.

VII.

The three Classic orders contain all the fundamental principles of the æsthetics of Classical architecture, but architecture comprehends more than the three orders.

VIII.

There are some, however, who consider the orders in the same light as the Æolic, Doric, Ionic and Attic dialects among the Greeks. That, however, was merely a verbal or literal variation not affecting the meaning. To handle the orders, therefore, as the dialects, were to lose their high purpose and essential quality.

IX.

Each style of architecture has its conventional laws of propriety and its canons of beauty in form and proportion. These cannot be transgressed without a sacrifice of the leading emotions and impressions which they are calculated to produce. Mediæval or Chinese or Moorish art is as imperative and arbitrary in this respect as the purest styles of the Classic periods.

X.

Who shall say that Greek architecture is poor because its mouldings are few? Seven musical notes have sufficed for thousands of exquisite melodies, and each nation has its own peculiar airs Who shall count the endless varieties produced by twenty-four letters since language first assumed its written form ?

XI.

"It was not by a multitude of different and isolated impressions that the Greeks sought to interest, to move the feelings, and to satisfy the sensibility. They had only one leading idea, and that was a grand one ; they repeated it continually, and they modified it much by all the fugitive adaptations of sensible and insensible gradations of which it was susceptible The Greeks by this means satisfied two singular caprices of sensibility, which, idle and at the same time craving for something new, seeks to retain the same sentiment and excite a new sensation."—*Dupaty.*

XII.

To the like effect is the opinion of Milizia, that "the ancients accomplished grand works, as in their temples, by attending to the one great purpose of producing a grand impression at the first glance of a building. They knew not affectation or pedantry. But the moderns are over-scrupulous in minutiæ, lose themselves in littlenesses, and consequently too often only accomplish little things without beauty."

XIII.

Horace Walpole, as quoted by Woods, says :—"One must have taste to be sensible of the beauties of Grecian architecture ; one only wants passions to feel the Gothic. In St. Peter's one is convinced that it was built by great princes ; in Westminster Abbey one thinks not of the builder. The religion of the place makes the first impression."

The Authority of Antiquity.

XIV.

Whenever an antique type is adopted in a composition the sentiment of the original should be adhered to as strictly as possible. But reason will show that it is right to introduce any sensible modifications in details, which the immediate peculiar purpose of the monument and the fitness* of things may demand, but still in the spirit of the original.

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* A triple division is apparent in Mediæval art—as the Byzantine, the Lancet and the Ogival styles. There are also three primitive colours, and grammarians have a like gradation in the positive, comparative and superlative degrees of comparison. The crust of the earth is mainly composed of three materials—silex, argil, lime. In time there is the past, the present and the future. It is not to be supposed that the man of genius is held in unworthy thraldom by the determined proportions of the three orders. Each order has in itself a like triple division as the Doric of Magna Græcia, of the Theseum and of the Athenian Agora ; the Ionic of the Ilyssus, of Ionia and of the Erechtheum ; the Corinthian of Tivoli, of Mars Ultor or of Jupiter Stator. Thus, after all, the Tuscan is but a simplification of the Doric, and the Composite an amplification of the Corinthian—modifications, not distinct ideas. The Ogival again may be divided into Decorated English, Flamboyant, Perpendicular. The architect, therefore, with a rich and well-directed genius, knows how to produce an endless variety without trespassing beyond the well-defined limits of each order and style.

* Fitness comprehends not only convenience, but also the appearance of convenience, suitableness to its purpose and the expression of character in union with the purpose.

XV.

A cupola would be incongruous placed on the Parthenon, or the porch of Rheims attached to Santa Sophia at Constantinople.

XVI.

The ancients themselves were in nothing bound by mere precedent. No two monuments of the Egyptian, Greek or Roman artists were precisely alike, yet each was imbued with the leading feature of its style or period, and this feeling was progressive, not retrograde.

XVII

The works of the ancients were founded upon the finest perception of fitness, yet the rules which guided them are not insuperably binding on the moderns. "To look back to antiquity is one thing, to go back to it is another," says Colton. And how full of truth is Bacon's sentence on the same point:—"Antiquity deserveth that reverence, that men should make a stand thereupon and discover what is the best way, but when the discovery is well taken, then to make progression"—*Advancement of Learning.*

XVIII.

It is desirable to have the authority of the ancients, but it is not conclusive, for what was proper and indispensable heretofore may now be inexpedient or inappropriate. "Still we must begin by observing what has already pleased, if we wish to judge rightly as to what will please in any future production."—*Woods*

XIX

Time cannot render irregularities legitimate, nor can authority justify abuses of taste. On the other hand, a thing is not praiseworthy on the sole ground that it is new "E benchè," says Palladio, "il variare e le cose nuove debbano piacere, non si deve però far ciò contra quello che la ragione ci dimostra" (Although variety and new things must please, one need not, however, oppose that which reason demonstrates to us.)

XX.

He who talks of common sense as superseding all reference to the opinions of those who are gone before had better cease to speak a cognate language, abandon every known art, and invent a new order ere he rejects the experience of ages and the wisdom of thinking men of former times.

Proportions of Buildings.

XXI.

Can it be supposed by any who have thought on the subject that beauty of form or gracefulness of proportion, even in a moulding, depends upon chance? Some law, known or unknown, rules each.

XXII.

But is there anything more difficult to define than beauty? We know that there is a beauty in form, in colour, in expression; still, who shall lay down a law of beauty which shall embrace under one head the most exquisite productions of the Classic and Eastern and Western art, and those of the Mediæval periods? Who can reconcile under one common canon the massive column of the Doric and the slender shafts of the Gothic periods? Each has its beauty, and that not a beauty of caprice or fashion. No doubt, then, that there are different qualities of beauty, but still there must be some leading principle, of which these are but various developments. "Nonostante questi gusti nazionali, regna nell' architettura un gusto commune, che tocca tutti ugualmente, almeno chiunque ragiona," says Milizia, *vite* xlvii. (Notwithstanding these national tastes, there rules in architecture a general taste which affects all people equally, or at least each one who reasons.)

XXIII.

What is the value of Mons. Frezier's axiom? that "beauty in the arts is but a national or educational prejudice and inconstant, since it depends only upon the fashion of the time" Even Sir J. Reynolds contended that beauty was conventional "One man," says he, "prefers a swan, another a dove." True, but who prefers a goose to a swan?

XXIV.

"To produce the effect of magnificence in architecture three things seem to be necessary—greatness of dimension, simplicity of design and appropriate decoration. To satisfy the mind after examination three other things are requisite—correctness of proportion, graceful drawing and delicate execution. Of these six points, St. Peter's has the first in a high degree, something of the second and a great deal of the third; the three latter it also possesses, though not in a very remarkable degree; the proportions do not offend, and the drawing and execution are good"—*Woods*, vol. i. p. 380.

XXV.

"May we not presume," says George Moore, "that the sublime emotions called forth by a view of the exterior of a grand building, such as the Temple of Apollinopolis Magna in Upper Egypt, are chiefly due to the very great extent of its dimensions, the massive character of the composition and the boldness and breadth of all its parts?"

XXVI.

Is not proportion the principal ingredient of beauty in architecture? And may we not concur with Blondel, when he says (l v c xv), "Toute la beauté de l'architecture, toute sa grâce, et enfin tout ce qu'elle a, qui peut plaire, s'efface et s'en va en fumée aussitôt qu'il n'y a plus de proportion"? (All the beauty of architecture its grace, and whatever it has which pleases, is effaced as soon as proportion is neglected.)

XXVII.

"For the simplest and least-embellished edifice, if it have the merit of just proportion, will produce a satisfactory impression; whereas the most decorated buildings, if devoid of proportion, can never be beautiful."*—*Milizia.*

XXVIII.

Unity without variety produces uniformity and insipidity. From variety without unity result confusion and distraction.

XXIX.

To be always sublime is to fail of true elevation. Both the mind and the eye require occasional repose, as well as measures and degrees of comparison, to appreciate grandeur.

XXX.

In each work there ought to be a progressive march of effects; nevertheless we must not forget the precept of Palladio—"Che gli edifici abbiano da parere uno intiero e ben finito corpo."—Lib. i c i. (Edifices have each to appear as an entire and well-finished body.)

XXXI

An architectural object pleases the eye when its leading parts are so arranged that the attention is successively and correlatively struck by the most essential down to the least important feature.

XXXII.

Even the accessories ought to have such an appropriate relation to the whole that they should not be absorbed by the mass, but be capable of exciting distinct ideas in just relation to their purpose.

XXXIII.

Yet, as Woods judiciously observes, "Nothing has a worse effect or has spoiled more beauties than the desire to give great consequence to the subordinate parts, for there are no positions more certain than that unity of design is essential to magnificence, and that in order to preserve unity of design the inferior parts should not form independent compositions."

XXXIV.

Still, all dressings should have an imposing size and dignity of character adapted to their purpose; if slight and insignificant they appear merely ornamental, and no useful member should be degraded to so low a purpose—as mere ornament.

XXXV.

But how absurd is the question, "What is the use of ornament?" Well, says Woods in reply, "Magnificence is use when well-employed; it is calculated to produce respect and awe, or at least a frame of mind which readily admits those sentiments, and therefore it ought to be found in public edifices, and still more in and about the temples of the Deity."—Vol. i. p. 376.

XXXVI

Where all is moulded and every moulding carved, mass is without proportion and profusion without richness. Thus in the later productions of the Roman Empire ornament is loaded upon ornament until it sickens the beholder.

XXXVII.

An order when introduced should be the predominant object without appearing colossal or gawkish.†

XXXVIII.

If massive columns are close to each other they appear more massive still; and slender columns when wide apart appear slenderer still.—*Milizia.*

XXXIX.

Intercolumniations should never be so wide as to diminish the real or apparent solidity of the entablature; nor so narrow as to afford insufficient space for passing through.

XL.

It may be tolerable to omit a usual member of architecture, but insufferable to put it in the wrong place.

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* As in a picture fine chiaroscuro, brilliant and harmonious colouring and good composition do not compensate the absence of correct drawing.

† As in the Valmarano Palace at Vicenza, by Palladio.

XLI.

The leading canons of the art, founded upon the laws which govern nature, cannot ever be contravened with propriety in any style; but those laws which are purely conventional are binding only in the style to which they belong.

(*To be continued.*)

DISCOVERY IN ST. MARK'S, VENICE.

A CORRESPONDENT of the *Scotsman*, writing from Venice on December 22, says:—

The original church of St. Mark at Venice was begun in 830 and finished in 834, under the Doge Giovanni Parlecipazio It was built to receive the body of St. Mark the Evangelist, brought from the church that bore his name in Alexandria in 829, and its form was that of a basilica, and probably a copy of the Alexandrian church. The body of the saint was deposited in a stone sarcophagus in the crypt of the church, which crypt was rediscovered and cleared out in 1892 It is exactly under the central dome of the present church. In its western wall there was an aperture that allowed one to look under the nave of the floor of the present church, and I remember, when down the crypt with the architect of the church soon after it was cleared out, asking the question, "What is under the nave?" The architect answered, "At present we see only small brick arches, supporting the floor of the church, and a lake of mud and water." Then he added, "I shall investigate this." He never did so, and he is now dead.

At last, however, as the result of a pure accident, the long delayed investigation is being made, and an important discovery warrants its being carried on systematically and with energy. A piece of marble in the floor of the church, just behind the western crypt wall, projected above the surrounding pavement and was apt to cause people to stumble In order to relay it properly the present architect of the church, Professor Manfredi, had it taken up. Instead of finding soil below it, he found a course of bricks. Uncovering these, he found the angle of a little crypt. Pursuing investigations still further, he found that the walls of this crypt were plastered and frescoed. Going further down, he found a slab of marble which he thought might be the old flooring of the church. Clearing it of mud and rubbish, he found it to have a cross carved upon it, and soon it became apparent that it was the lid of a sarcophagus. This was at a depth of about 5 feet. He thought to uncover it and examine it where it was, but as it was embedded in mud and water, and was apparently, as the lid was partially broken along one edge, itself full of water, and as this did not depend upon the rise and fall of the tide in the lagoons outside, but was due to filtration under the church, and was therefore permanent in quantity, he had to abandon the idea in favour of having it brought up into the church itself. In order to effect this a rather large aperture in the church floor had to be made It was then discovered that it was set against the west wall of a little crypt under a brick arch. Its front thus faced east. To raise it ropes were lowered from the centre of the cupola above. From the nave of the church it was taken into the baptistery.

Yesterday afternoon (the 21st ult.), in presence of the Prefect of Venice, the Marquis of Cassis, Comm. Morelli (Director of Royal Office for the Conservation of Monuments), the architect Manfredi, Professor Oceioni-Bonaggone, Cav. Scrinzi (director of the Civil Museum) and a few others, it was examined and opened. The sarcophagus measures 6½ feet long by 2½ feet broad and high. It is evidently an old Roman tomb, for on its front there is what is called an "album," and there were lines of inscription which have been effaced. The lid, which is one slab of stone, bears a Byzantine cross cut deep into it. It was therefore a pagan sarcophagus used by the Venetians for Christian burial. Again, its surface outside showed traces of fire. But the first church of St. Mark was burned in 976 in the famous fire that the Venetians themselves kindled to rid themselves of the tyrant Doge Pietro Comdiani IV. They set fire to the Doge's Palace, hoping to burn him in his own house, but as the church of St Mark had a wooden roof, it caught fire, and as other houses crowded upon it, they too caught fire, and a large part of Venice was burned. The probability therefore is that this sarcophagus was in the church at the date of this historic burning, and that these are the marks of it that it bears. Hopes ran high amongst the few gathered in the baptistery of St. Mark's yesterday that when opened the sarcophagus might contain something of historic interest Their hopes were only partially fulfilled. It contains four skeletons—one to a large extent complete, the others in pieces. Two skulls lay at either end of the tomb. They might be the remains of the members of one family. Professor Scrinzi, however, says that an old document in the archives speaks of the bones of four saints having been deposited in the segreta of the church. The sarcophagus was full of limpid water. This was run off, when the bones were seen to be resting on a layer of mud. Before any further light on the contents of the sarcophagus can be gained, it will be necessary to take out the bones and examine them, also to search the mud and see if any coins or relics of the time are contained in it. This it is hoped may soon be done. Meantime, Professor Scrinzi is endeavouring to discover if any trace of the defaced inscription can be made out, and also the archives of the church of the ninth century will be examined Pieces of red terra-cotta vases, beautifully iridescent bits of glass, probably of a lamp that burned in the crypt, some burned bones, shells, and many pieces of frescoed plaster were found around the sarcophagus, and were laid out on a table in the baptistery for our inspection. Professor Manfredi has been authorised to continue his researches under the mosaic floor of the church.

GENERAL.

The German Painter, J. P. Hasenclever, who died on the 15th ult., was originally an architect. But in 1843 he was recognised as an able painter. He was most successful with humorous subjects.

M. Edouard Detaille has been nominated as vice-president of the Académie des Beaux-Arts for this year. He is therefore likely to become President of the Institut in 1905.

A Memorial of Herr Spitta, the German architect, has been set up in Berlin. It was designed by Herr J. Otta. The bronze medallion portrait is by Herr Manthe. The whole has a Romanesque character, for that was Spitta's favourite style.

An Exhibition was opened in Paris on Saturday which is organised by French architects for the purpose of showing the application of various kinds of ceramics to building construction. It is held in the Ecole des Beaux-Arts, and will remain open until the 10th inst.

The Competition for the new public offices, town hall and county school, Acton, has just been decided The successful design is that of Mr. Hunt, of Vicarage Gate, Kensington, London, W. The designs are on exhibition at the Central Hall, Priory Schools, Acton Lane, London, to-day and Saturday.

The Commission of "New Paris" have awarded a medal of encouragement to Mdlle. Dufau for the artistic character of her posters during the past year.

The Llanelly North Dock, which was begun in March 1898, was opened last week. It took about two years to build the dock, which is nine acres in area and has a depth of 28 feet, and the cost was nearly 250,000*l*., the contractor being Mr. L. P. Nott, of Newcastle

An Electrical Exhibition will be held at Warsaw from May to September 1904. Foreign exhibitors are invited to take part in the exhibition, which will include a special section for new electrical inventions.

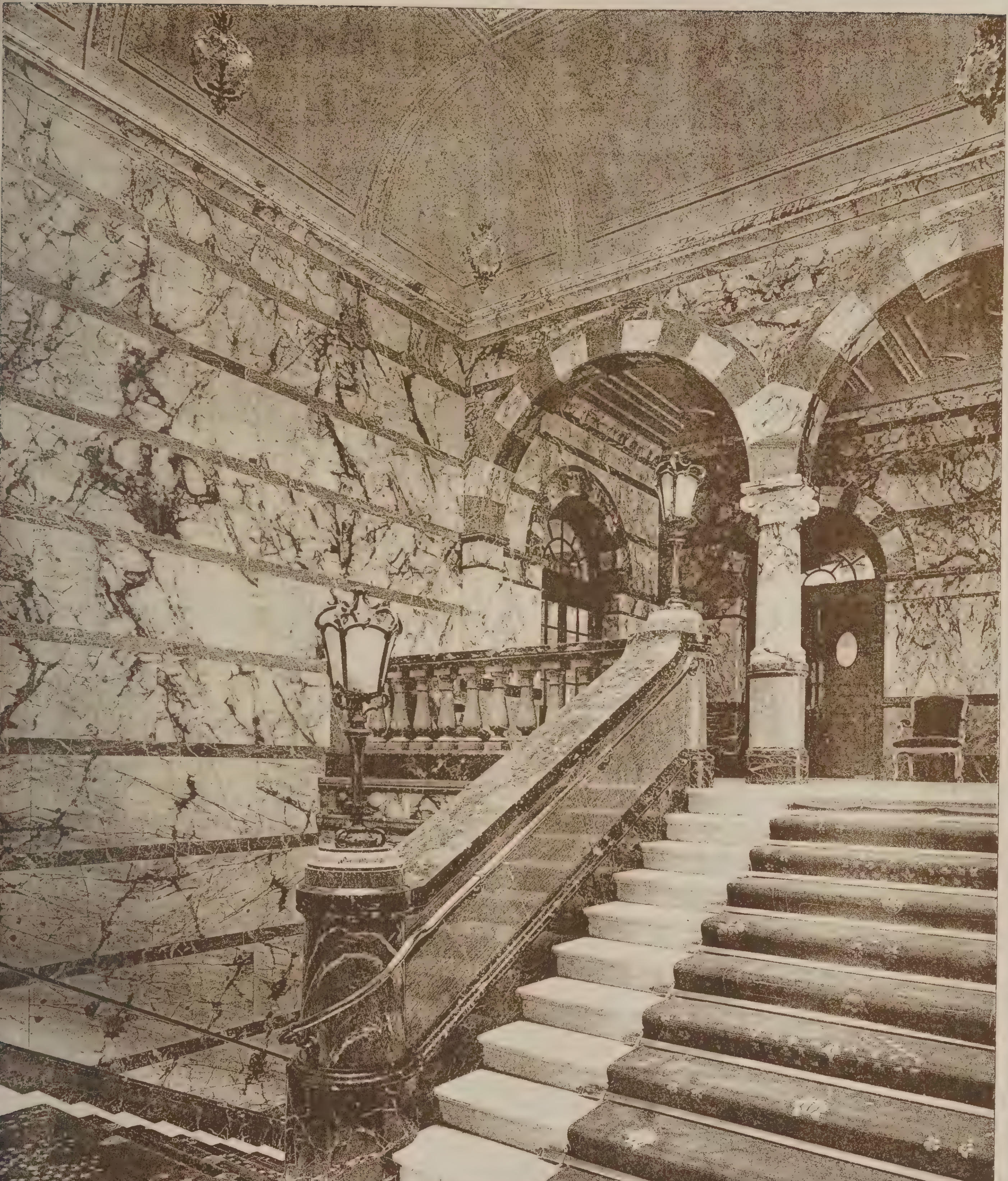
Mr. John Callcott Horsley, Royal Academician since 1864, an exhibitor since 1836, elected treasurer of the Royal Academy 1882, has left estate valued at 22,012*l*. 9*s*. 2*d*. gross, including personalty of the net value of 17,691*l*. 4*s* 10*d*

Mr. E. Doran Webb, F.S.A., of Salisbury, was presented last week with the freedom of Shaftesbury, in consideration of the eminent services he has rendered to the borough, especially with regard to the excavations of the ancient abbey of Shaftesbury.

The Damage done to the Queen's apartments by the recent fire at Sandringham has now been repaired, but the work is considered only of a temporary character, for His Majesty has decided that no possible chance of a recurrence of danger to Her Majesty through fire must be allowed to exist. Next spring, therefore, the apartments will undergo extensive alterations. Fireproof material will be introduced, and all wooden beams are to be replaced by iron girders.

A Communication has been received from the Home Office, sanctioning the proposed improvement of the existing municipal buildings at Folkestone The alterations include a new police court and the enlargement of the council chamber.

The Rector of St. Ebbe's Church, Oxford, appeals for help towards the restoration of his church, which dates back to about the year 686, though probably of that building only some of its stones remain. There still remain, however, several objects of interest, such as two Early English windows (at present blocked up), a very beautiful Norman doorway (not in use), a very ancient tower, of which the lower part may possibly be of Saxon origin, but which now needs partial rebuilding or removing to a more suitable position. The interior of the church needs thorough renovation.



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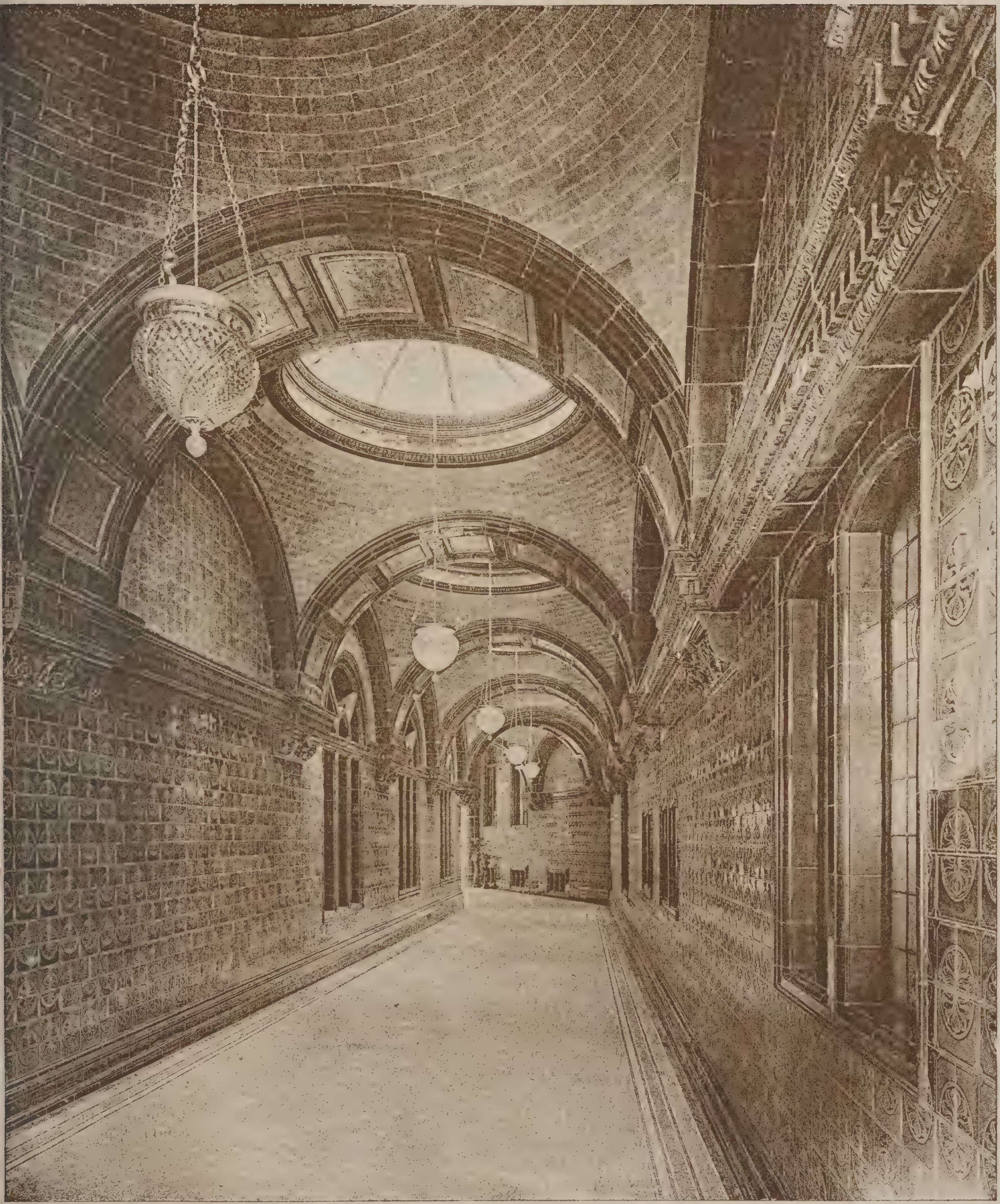
MIDLAND HOTEL, MANCHESTER: STAIRCASE TO CONCERT ROOM

CHARLES TRUBSHAW F.R.I.B.A., Architect



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MIDLAND HOTEL, MANCHESTER: CORRIDOR TO STATION.

CHARLES TRUBSHAW, F.R.I.B.A., Architect

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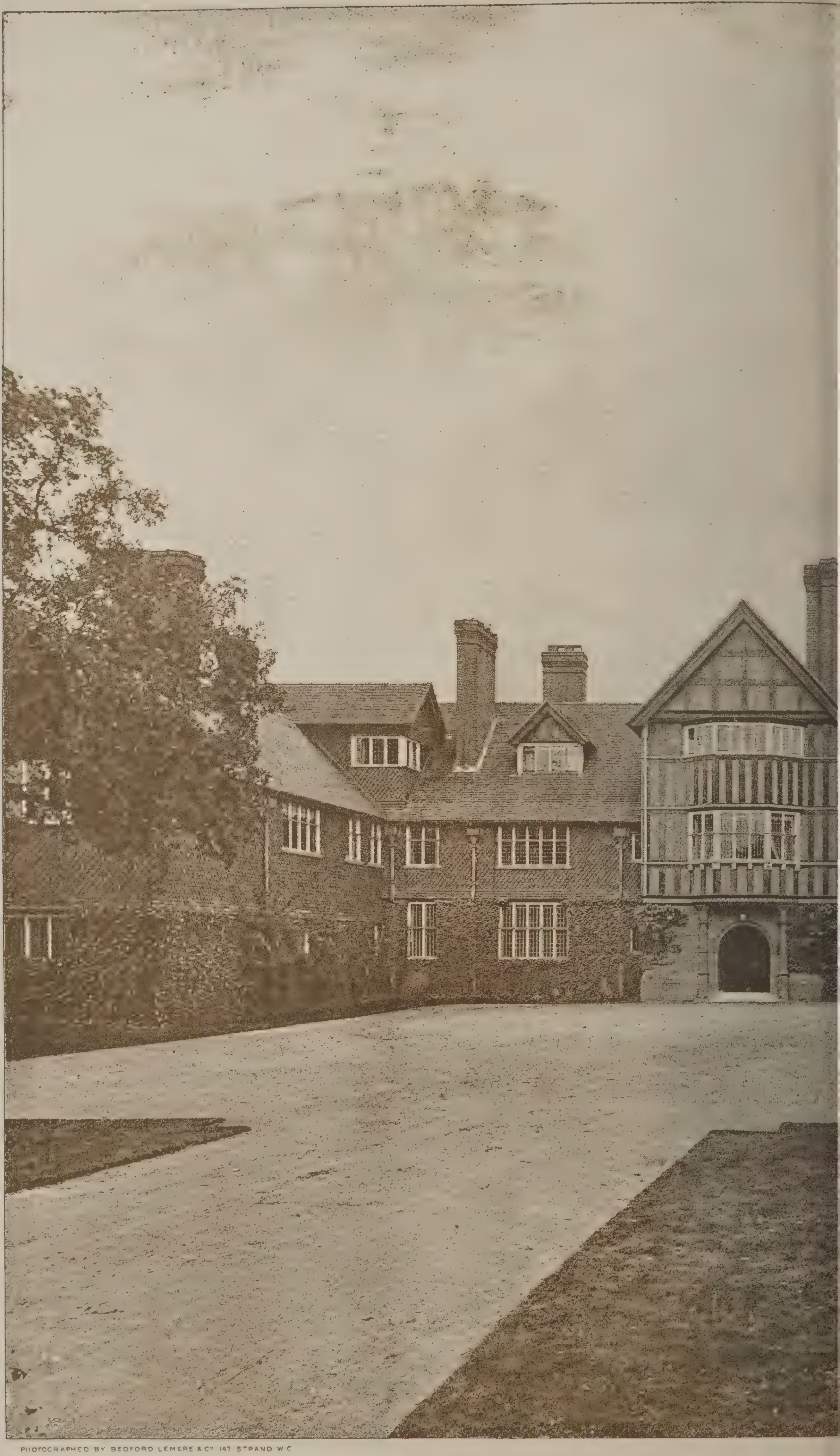

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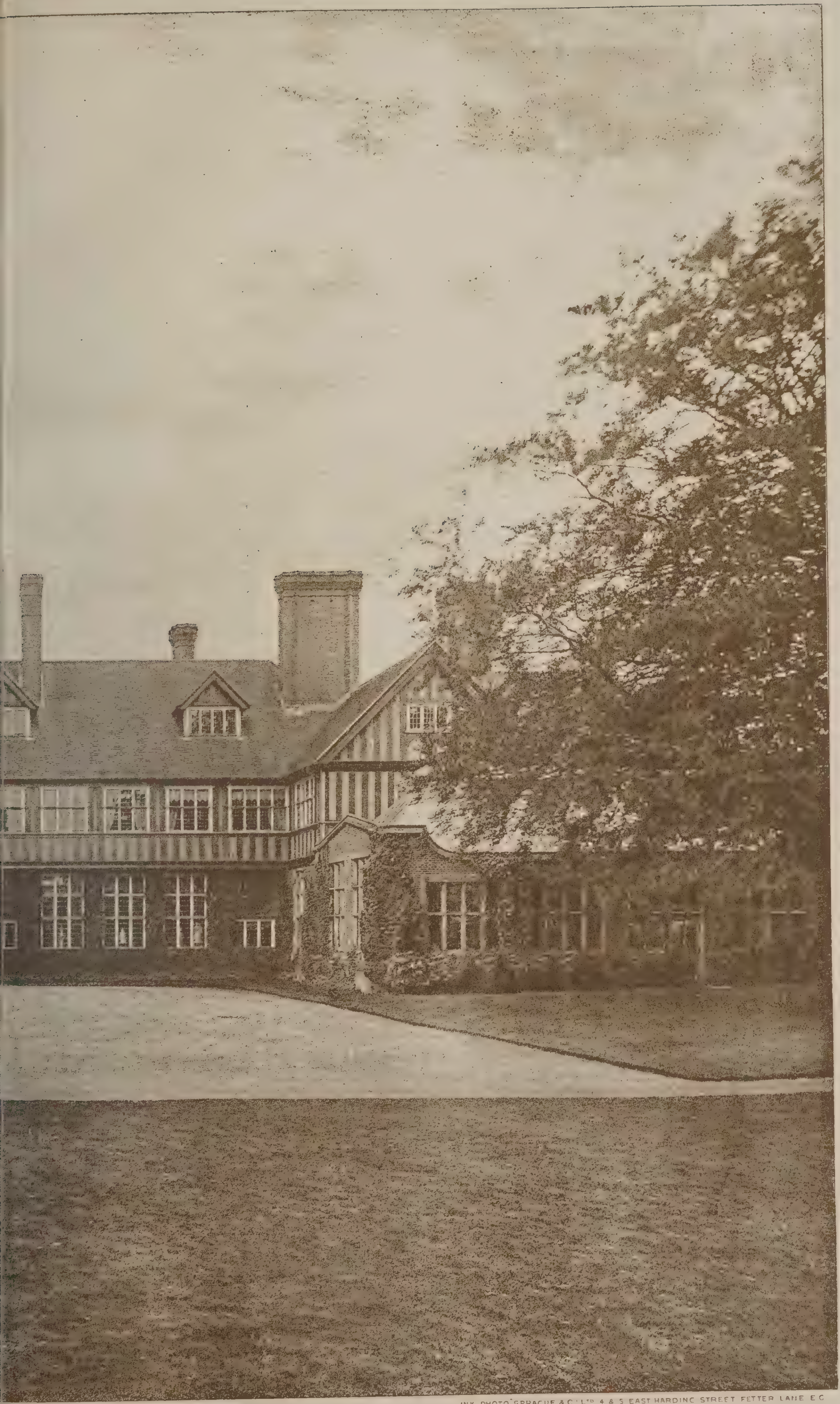
HOUSE AT BANSTE

NORMAN

u· 1st 1904



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Surrey: North Front.

V, R.A., Architect.

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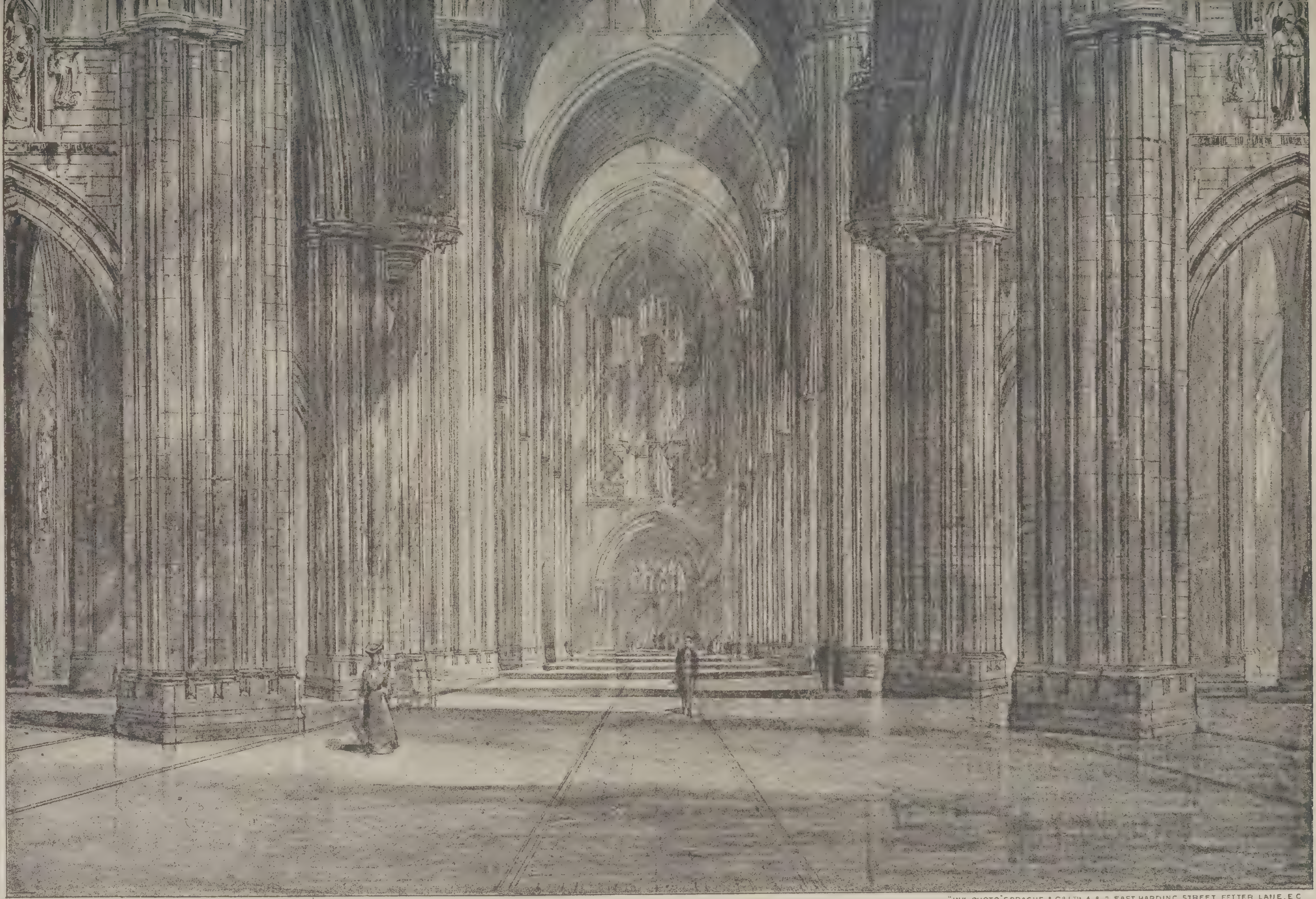
The Architect, Jan. 1st 1904



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LIVERPOOL CATHEDRAL: INTERIOR VIEW FROM CHOIR.

G. F. BODLEY, R.A.,
and
GEORGE GILBERT SCOTT, } Architects.

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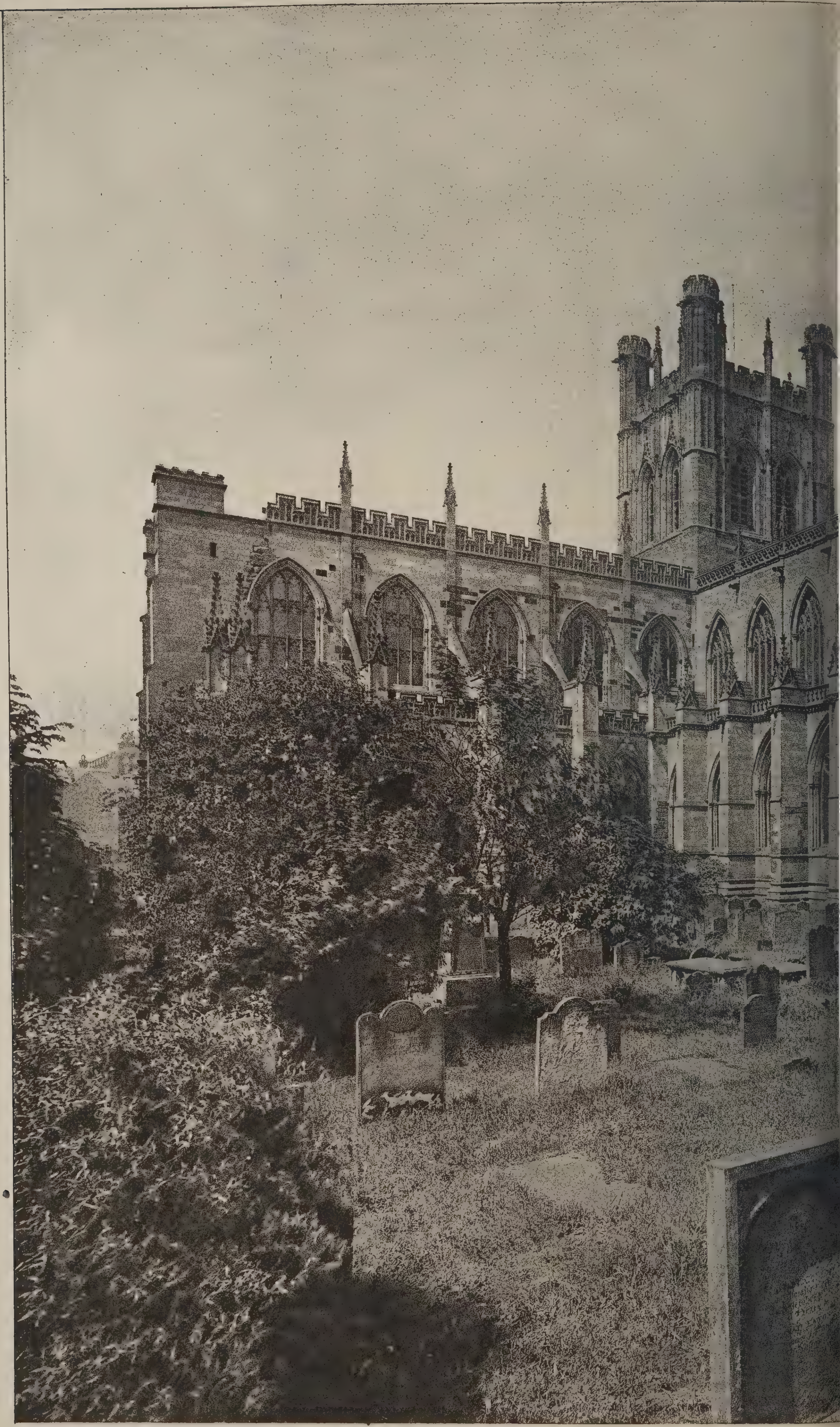

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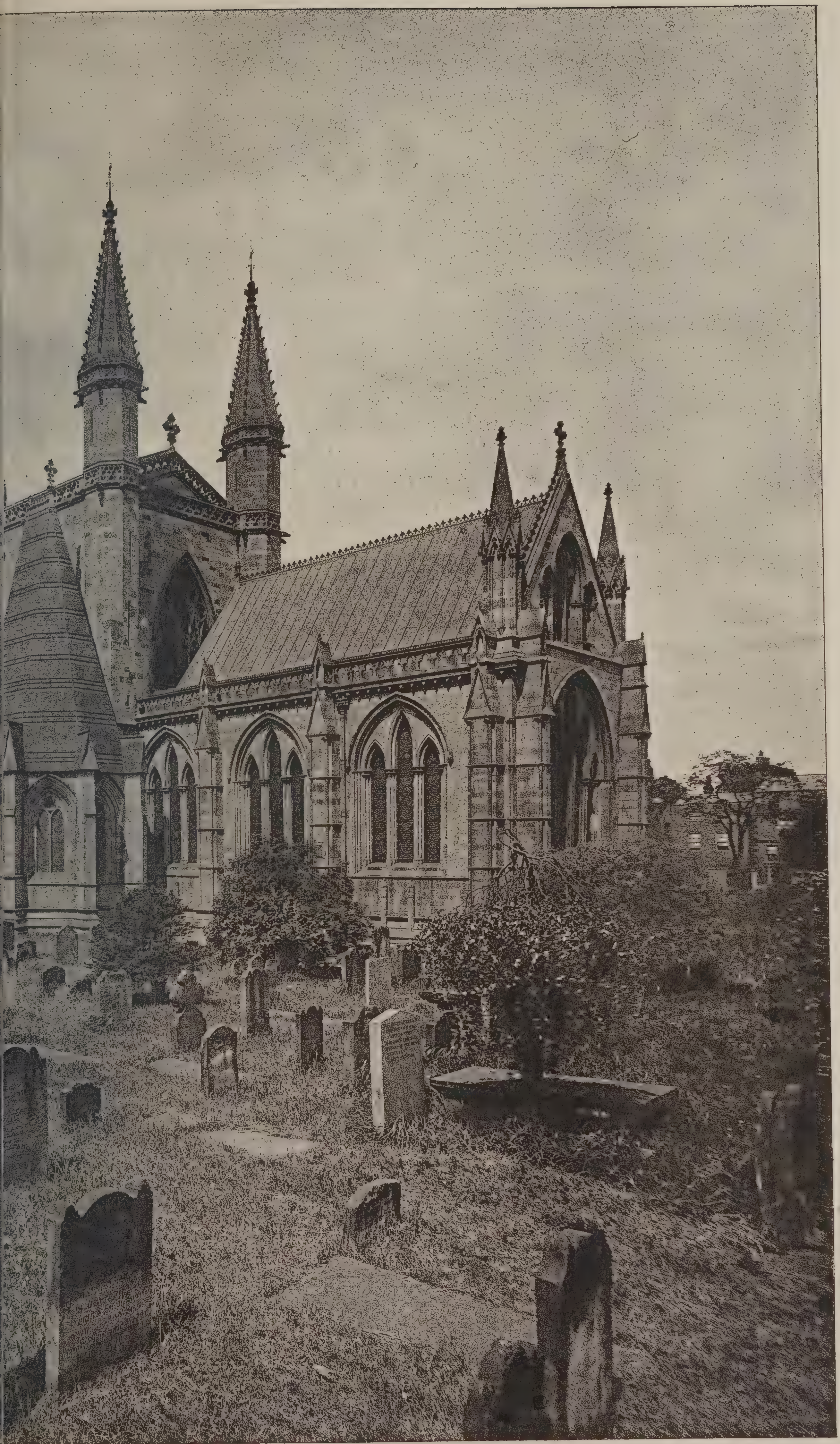
CATHEDRAL SERIES, No. 478.—



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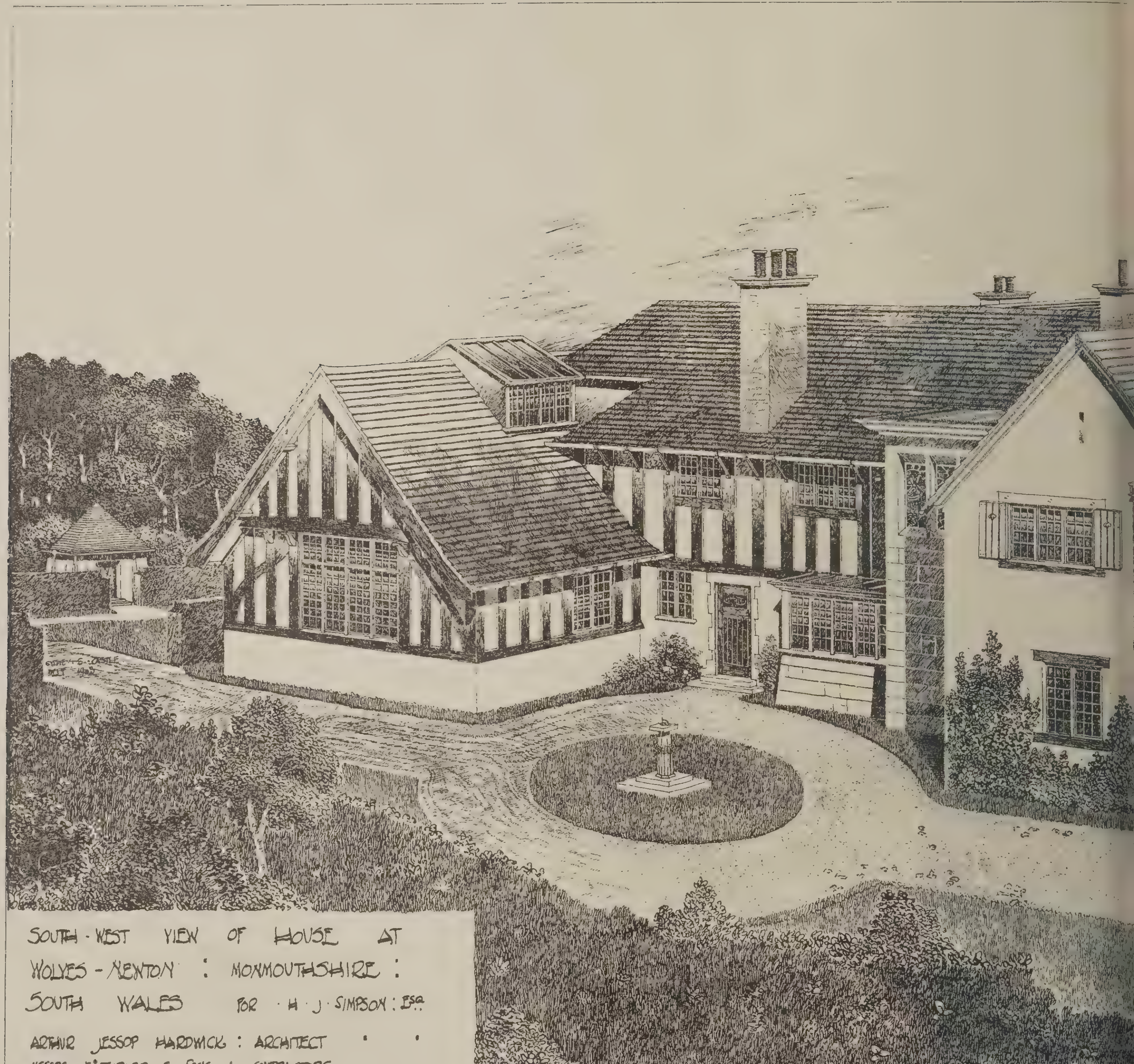
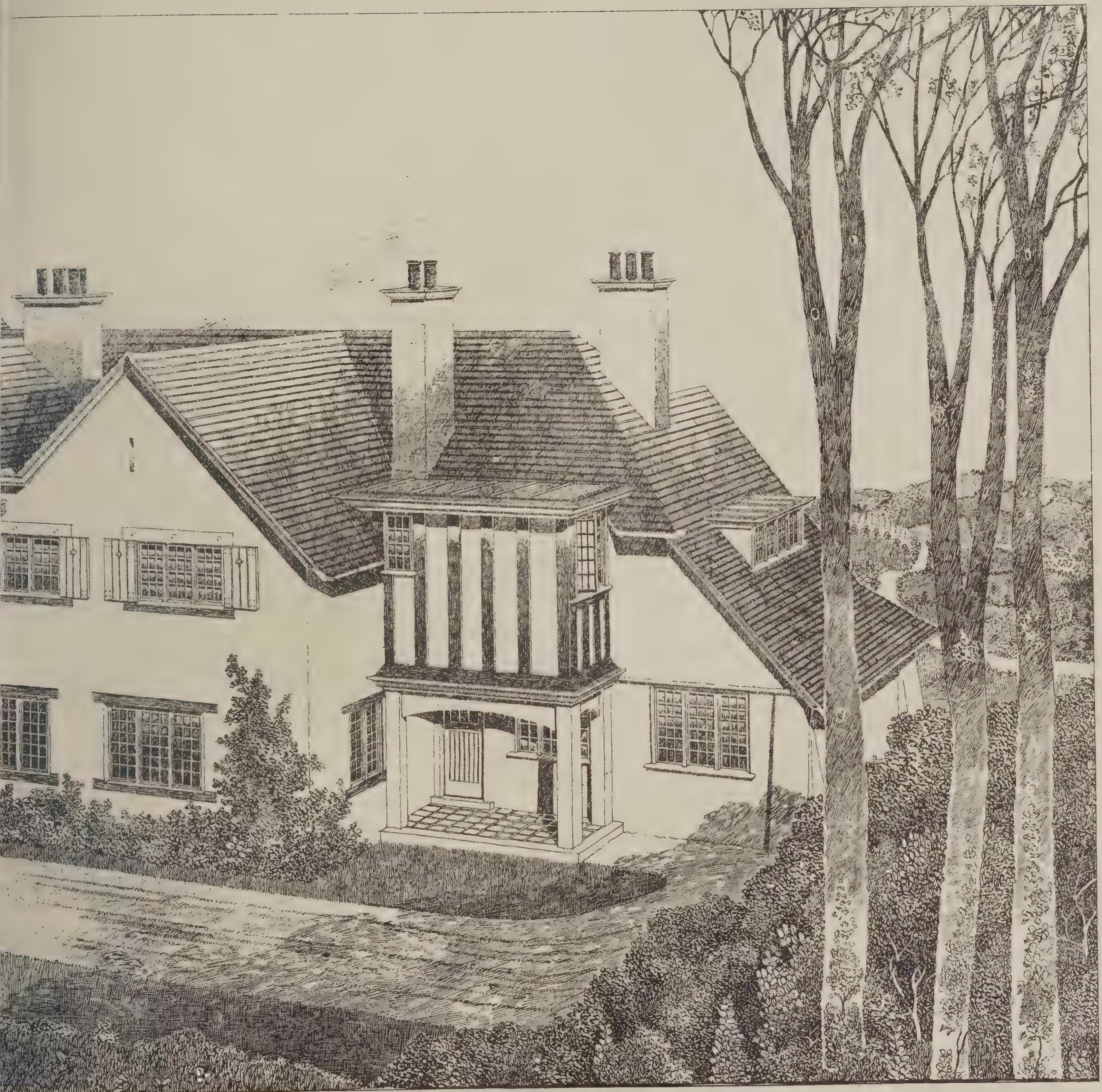
STER: VIEW FROM SOUTH-EAST.



SOUTH-WEST VIEW OF HOUSE AT
WOLVES-NEWTON : MONMOUTHSHIRE :
SOUTH WALES FOR · H · J · SIMPSON : ESQ.
ARTHUR JESSOP HARDWICK : ARCHITECT
MESSRS E. TURNER & SONS : CONTRACTORS

st 1904.



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The Architect.

THE WEEK

THE fifth general meeting of the Royal Institute of British Architects was held on Monday, when Mr. ASTON WEBB, R.A., presided. At the instance of the Leeds and Yorkshire Architectural Society, Manchester Society of Architects, Liverpool Architectural Society, Cardiff, South Wales and Monmouthshire Architects' Society, and York Architectural Society, the following motions were brought forward:—(1) That this Institute is in favour of the general principle of the compulsory examination and registration of architects; (2) That a committee be appointed to consider what steps should be taken to give effect to this principle, and to report thereon to a special general meeting before the opening of Parliament; (3) To nominate this committee. The first resolution having been moved, the following amendment was proposed by Mr. BUTLER WILSON, and seconded by Mr. G. C. ASHLIN:—"That a committee, consisting of the Council of the Royal Institute of British Architects and representatives of the allied societies, be appointed to consider what steps should be taken to give effect to the principle of registration, and to report thereon to a special general meeting." This was further amended on the motion of Mr. J. MACVICAR ANDERSON, seconded by Mr. H. T. HARE, and was passed in the following form:—"Resolved, against one dissentient, That a committee, consisting of the Council of the Royal Institute of British Architects and representatives of the allied societies, be appointed to consider the principle of registration, and to report thereon to a special general meeting." At the same meeting Messrs. P. M. HORDER, A. P. MACALISTER, T. M. MILBURN, W. MILBURN, and A. E. PERKINS were elected Fellows. Mr. DICKSEE, R.A., was elected an Honorary Associate and the Comte ROBERT DE LASTEYRIE as hon. corresponding member.

IT is remarkable how willingly artists who have attained the highest rank in France will accept prizes as if they were beginning their careers. The latest example is M. JEAN LOUIS PASCAL. His eminence is recognised not only by his fellow architects, but by amateurs and the public. He won the Prix de Rome, gained medals from Salon and international exhibitions, passed through various grades of the Legion of Honour, and was entrusted with various Government commissions. But a few days ago he condescended to accept the Prix Lheureux. It is one of the rewards entrusted for bestowal to the City of Paris. Architects and sculptors receive it alternately, and it is intended to reward the production of some work which adds to the beauty of the city. The recipients have been the late JULES DALOU for his group of the *Triumph of the Republic* in the Place de la Nation, M. CHARLES GIRAULT who designed the "Petit Palais," and M. LOUIS BARRIAS for his monument of VICTOR HUGO. M. PASCAL had many claims to the distinction, but among them the additions to the Bibliothèque Nationale were considered to form a sufficient title.

THERE are few readers of London newspapers who do not feel gratitude to Mr. PLOWDEN for his efforts to impart some of his good-humour to the cases which come before him as a magistrate. But architects at least will not approve of his playful treatment of a "signs" case which he heard a few days since. Those illuminated structures injuriously affect the character of buildings by night as well as by day. No provision is ever made for them in the design, and they are placed in positions without any regard to the extent of their clashing with the architectural lines. They have to be strong, and therefore are projections beyond the general building line. Nor are they in all cases built up of uninflammable materials. In the case in question the structure or sign projected 10 inches, and canvas was used in the construction. Mr. PLOWDEN, however, assumed that objections were either based on æsthetic considerations, although "no one was apparently a penny the worse," or were inspired by "a little temper, a little offended dignity, because the County Council's consent had not been asked." Eventually the worthy and witty magistrate said he was going to decide the question on common sense grounds without consulting the "authorities" In his opinion the cases were temporary and were excrescences that could be put up or taken down at will from one day to another. He could not help thinking that if the Council's consent had been asked before the work was begun no proceedings would have been taken. The summons would be dismissed. We hope the London County Council will bring the case into a higher Court. The decision turned on the meaning of the word "structure." That term may be indefinite, but the Building Act unquestionably says that wooden structures are not to be erected without the license of the Council, the exceptions being those of wood erected by a builder for use during construction or repair.

As the fire in Chicago has renewed attention for the safety of theatres, the following resolutions, which were passed at the recent Fire Prevention Congress, may be reprinted with advantage:—1. That the first essential for the safety of the public attending theatres is the provision of easy means of exit from the auditorium by direct and clear routes of exit as distinct from circuitous routes. 2. That next in importance to the provision of exits, the safety of the public requires the provision of suitable fire watches and careful fire survey with the view to the prevention of fire. 3. That the safeguard third in the scale of importance is the provision of automatic sprinklers over the stage. 4. That questions of suitable construction, fitting, and equipment only rank after the above three primary safeguards for the protection of the public. The Congress considers:—1. That with the view of furthering the prevention and extinction of fires, fire watches in theatres should be manned from the public fire service. 2. That it is desirable to either provide the necessary movable fire appliances of a theatre from the public fire service, or to have powers to enforce uniformity of pattern and quality. 3. That theatres require a duplicate water-supply service.

THE Paris Municipal Council, among its numerous duties, assumes the conservation of the renown of famous citizens. This year it becomes the turn of the younger ISABEY and RAFFET, both of whom gained eminence in art. They were representatives of two modes which were supposed to be opposed. ISABEY was adapted to realise TENNYSON'S "Garden of Girls." His figure scenes were as brilliant as flower-pieces. He took possession of a longer period of time than WATTEAU, and in consequence there is a marvellous variety in his drawings. But whatever the period the costumes are gorgeous. The figures appear to have no business in life except to look elegant. The influence of heredity can be traced in his works, for his father was a court painter and designer attached to the Opera House. ISABEY was, in addition, a marine painter, but when showing foaming waves he was probably thinking of lace and flounces. No modern works are better adapted to compel a spectator to forget actualities and be a denizen of dreamland. RAFFET was more of a realist. He was a turner's apprentice, but the legends of the Napoleonic epoch which had just vanished seized hold of him, and he became a lithographer in order that he might commemorate them. He was not satisfied with representing one or a few of the old grenadiers. HORACE VERNET had not a clearer notion of the right way of disposing of squadrons in the field, and one of his small plates presents the varied manœuvres of a battle. In composition he was not excelled by any of the oil painters of his time. Fate was kind to him in giving him Prince DEMIDOFF as a patron. The two travelled over a great part of Europe, and the scenes in Turkey and the neighbouring lands were revelations. His Russian and Spanish scenes are also characteristic. How well he could draw individuals is evident from the portraits of diplomatists and of the members of the Papal Court in 1849. His versatility was marvellous, and it would be difficult to determine whether he was more successful in the merrymakings of Parisians in suburban *guinguettes* or in Algerian battles. Yet this great artist was always regarded as a mere lithographer Justice has, however, been done to his memory, although there is no place for one of his works in the Louvre, and this is seen by the courage to place RAFFET on the same level as ISABEY.

THE WINTER EXHIBITION.

We endeavoured in our last volume to revive the interest in Sir Thomas Lawrence, a portraitist who is strangely and unjustly undervalued by his countrymen. We may therefore claim to have served as a pioneer for the project of the most interesting part of the Winter Exhibition at the Royal Academy. The peculiarity of the position of Lawrence is evident when we find that the committee hesitated to hang more than forty-five pictures by one of the former Presidents, and omitted at least one class of examples which were necessary in order to enable visitors to realise the extent of the painter's skill. At the exhibition of his works held after his death in the gallery of the British Institution, ninety-four pictures were seen, and that also could not be accepted as a representative collection.

Some would-be connoisseurs have condemned Lawrence's portraits as merely meretricious productions, in which there is none of the sincerity that characterised similar works by the great masters. It is well to oppose to that belief the opinion of a foreign painter who in thought, style and execution differed from the Englishman. Eugène Delacroix has testified to the prodigious *finesse* of Lawrence's modelling; the animation he imparts, especially to his portraits of women, who have the air of speaking to the spectator; and those qualities, affirms Delacroix, give him superiority over Vandyke himself, whose admirable figures are tranquilly posed. Lawrence also, he adds, renders successfully the *éclat* of the eyes and the expression of mouths that are partly open. Lawrence was always a favourite with Frenchmen, and his works helped to create among them the admiration for English men and women of a certain class as if they were the highest exemplars of social dignity.

What was said of Moore, the poet, by Byron is equally applicable to Lawrence, "Tommy loved a lord." Although only the son of an innkeeper, he possessed dignity of manner and he was well adapted by nature to be the limner of English society. He lacked the broad sympathy of Reynolds or of Gainsborough, and would very likely have hesitated to paint blinking Sam Johnson, or the unlovely Oliver Goldsmith, or the parish clerk of Sudbury. But probably Lawrence might have gained a more catholic disposition if he had not been taken up by the aristocracy in his childhood, and escaped the privations which so generally befall young artists. There is no better work in the Academy exhibition than his *Miss Farren* (afterwards Lady Derby), and at the time it was exhibited he was barely eighteen. By the desire of George III. he was made a Supplemental Associate before attaining the prescribed age, and he was only twenty-two when he succeeded Reynolds as the king's painter. He had scarcely reached manhood when he was making a larger income than Reynolds. And yet after his death an exhibition of his works had to be held "for the benefit of his estate," or, in other words, to pay his debts, although the proceeds were given to his two nieces. His life was a continual example of action and reaction, and there was some truth in Opie's bitter remark, "Lawrence made coxcombs of his sitters, and his sitters made a coxcomb of Lawrence."

He is supposed to have been best adapted to produce portraits of fine ladies of an English type. But the full-length figure of the first Lord Ribblesdale, of which there is also the preliminary sketch, is evidence of his admiration for a stalwart man as well as of the vigour with which he could represent one. His portraits of John Kemble as Rollo, Hamlet, Cato and Coriolanus, not one of which is exhibited, reveal the same tendency. He himself preferred his *Satan*. It is apparent also, from the success with which he painted the figures of foreign rulers and statesmen, that his skill did not always run in one groove. *Pope Pius VII.*, which has been lent by the King, is remarkable because the face and figure are un-English. We see a true Italian, a refined Antonelli, worn by suffering and disappointment, and the figure seems, with all its weakness, ready to stand up to assert Papal rights or to bless the whole world. In addition, the difficulty was before the painter in being practically limited to one colour, for cape, cap, slippers, curtains, carpet are only variations of red. *Cardinal Consalvi*, his minister, is no less meritorious, for here likewise red predominates, and we see a suggestion of the alertness of a statesman who was the most liberal of Roman reformers. Lawrence's success with these two subjects was enough to establish his reputation. The portrait of Master Lambton has been more popularised by engravings than any of Lawrence's works except the *Calmady Children*. If the Master Buttall of Gainsborough is a blue boy, this is a crimson boy. Possibly he was precocious, but he died when thirteen, and his family may have believed he was an incipient Byron, for he is represented meditating while seated on a rock on the steep bank of a river. Another engraved work is the *Countess Gower and Child*, which is simple and yet dignified. In those days ladies were proud to have their children introduced in their portraits and to have them appear as sprawling in their affection. The attitudes may sometimes have taxed the painter, but they are generally graceful. It was the same affection which dictated the novel framing of the numerous portraits of the Hamilton children, which might be taken to be stars of some order.

Lawrence will be more appreciated if his portraits are compared with those of another president, Sir Francis Grant, who was also a favourite with the "best people." There are ten examples, and not one among them is more than mediocre. The "meets" have not as much animation as modern photographs of similar scenes. Among the sixteen examples by the late H. T. Wells, the artist's last portrait of himself is perhaps the most successful. The *Volunteers at the Firing Point*, 1866, may arouse interest as a record, but the variety of uniforms and the crowding in a limited space were fatal to composition. The spectator must feel sympathy for a Guardsman who appears to have been driven to sleeping at his post by the ineptitude of the discussion among the military amateurs. The *Lord Hatherley* belongs to the Fishmongers' Company, and one cannot but wonder how so colossal a canvas could be got in or out of any room. The Chancellor was an excellent man, and we can hardly believe he approved of so pretentious an effort to increase his dignity.

Fortunately there are four portraits by Reynolds, one being *Charles James Fox as a Young Man*, which suggests the genial nature of the politician. There is a very large *Marquess of Granby*. As the picture is said to have been painted in 1766 it could not be exhibited at the Royal Academy, which was not then in existence. The commander stands as if looking over a battlefield (beside his charger, which is held by a black servant). The principal figure, with its cuirass and immense boots, might be taken for a warrior of an earlier time, and it is difficult not to pity the horse which has to bear so heavy a load. It is painted with great vigour, and from its size and character is one of those pictures which would seem out of place in a private gallery. There is an excellent example of Raeburn, a portrait of *James Byers* (or *Byres*). Although described as a well-known architect, his works are doubtful, and it is probable he found a more profitable calling in acquiring works of art for English visitors to Rome. The group of *Lady Drummond and Sister*, by George Romney, cannot be considered one of his best works. There is a *Lady Hamilton*, but it is ascribed to Lawrence. It was exhibited in 1792 as the *Portrait of a Lady of Fashion as "La Penserosa,"* and it is uncertain whether it represents Romney's favourite model. By Hoppner, who was a rival of Lawrence, is a portrait of *William Robertson*, a work of commonplace quality.

Some other English pictures are worth notice. There are six in a line by the late J. C. Horsley, including his diploma work, *A Pleasant Corner*. The subjects are suggested by the titles—*Mary Queen of Scots in Captivity*, *The Poet's Theme*, *A Truant in Hiding*, *Rent Day at Haddon Hall* and *The New Dress*. It will be observed each is an interior, and the rooms represented are always cheerful. Light predominates over shade, and all seem to be painted by a man who was happy in his work. Time has been gentle with them, for although they were painted thirty or forty years ago the colours are unfaded and retain their harmony. The four works by Sydney Cooper are neither better nor worse than those of later years.

The paintings by old masters are varied in this exhibition. As a rule there are not more than two by one artist, the exception being Paul Veronese, by whom are six small panels representing the story of Judith and Holofernes. Working within such limits as 10½ inches by 22½ inches, it could not be expected that the painter's mastery would be manifest, and we presume they are only suggestions for a series of large paintings. Like some other works, they come from Lord Methuen's valuable collection, from which this year the yield is opportune, for the Methuen pictures were the first which enabled the boy Lawrence to realise what painting was. He became despondent at the sight, but his natural elasticity came to his aid and inspired him to exertion.

The series this year opens with a small *Pietà*, by Memling, in which conventional rules rather than imitation of nature prevail. *A Donor under the Protection of St. Clement*, ascribed to Jean Perreal, is noteworthy for the elaborateness of the detail. Every thread was considered, and a thin line of yellow on a garment has the character of braiding. Another of Mr. Salting's paintings, a *Virgin and Child* by Maître de Flemalle, is a further instance of the love of detail, especially of pearls. A plaited screen, in which each straw is carefully followed out, becomes a substitute for a nimbus. The picture was intended to convey some symbolic signification, for on one side of the Virgin is a chalice and on the other a missal. The *St. Jerome*, by Gerard David, shows the saint beating his breast with a stone, the flesh being greatly discoloured. An early Flemish *Lady Reading* might be a representation of a woman of business from her serious expression. *The Adoration of the Magi*, by Lucas van Leyden, is a remarkable work. The scene takes place in a ruin, which has a staircase on which several figures are grouped. A portrait of his father, by Albert Dürer, is almost a monochrome.

We enter a new world, that of Italian art, with the *Virgin and Child and Donor*, by Giovanni Bellini. In it there is nothing ascetic, and breadth of treatment is substituted for elaborate detail. The types of figures are not exalted or imaginative, but there is a homeliness about the work which must have appealed to peasants. A more delightful child study was never painted than the portrait of Federigo Gonzaga, by Francia. The little prince is not deprived of his innocence in order to assume a semblance of authority; he is simply a handsome boy of ten with one hand resting on a dagger and wearing a jewelled collar which, like the dagger, suggests the painter was a goldsmith. *The Holy Family with St. Margaret*, by Filippino Lippi, is curious. The Infant Christ is seated on the lap of His mother, but St. John is supported not by the aged St. Elizabeth, as is usual, but by the young St. Margaret. There is consequently a symmetrical arrangement of two young women and two children. The composition suffers by the introduction of St. Joseph, who is very old and very puzzled, as if the group before him were a mystery. *The Virgin and Child*, by Filippo Lippi, is rather stiff in treatment, and the careful detail suggests a return to the work of an earlier time, or an imitation of northern examples. In the *Holy Family*, by Lorenzo Costa, the most attractive figure is St. Joseph, who is of an unusually mystic and refined type. A *Virgin and Child Enthroned*, by some unknown master of the Modenese school, indicates the desire to utilise novelties in religious paintings. The artist, we suppose, saw some ancient table ornament in which a slab of metal or precious marble was upheld by eight amorini. It was made to suggest a platform for the enthronement. Our modern ideas of fitness would be opposed to little children carrying weight, but at that time the Italians were more familiar with caryatides. A diptych of the Siena school shows a striking contrast between the two panels. On one is a Virgin and Child, and on the other an upright figure of Christ dead or after the scourging. The difference heightens the painful impression.

The *Virgin and Child*, by Sandro Botticelli, introduces five angels whose faces are so expressive they appear to be portraits. One of the most pleasing cabinet-paintings is the *St. John*, by Andrea del Sarto, "the impeccable." It is a single nude figure seated on a red garment and leaning his arm on a leopard skin. It measures only 17 inches by 13 inches. But there is a harmony about it which is not to be found in more ambitious works. Fra Bartolommeo was the author of a Virgin and Child, in which we note Raphael's influence, and of *Three Children Playing Music*, which corresponds to some extent with the arrangement introduced as a basis for one of his figures of a Madonna. The *St. Catherine*, by Luini, is of the usual type, and would at one time be ascribed to Da Vinci. The *Camp Scene*, by Pinturicchio, might have served as part of a cassone, and is a combination of incidents in which time past and present is confounded. *A Young Man with Hand on a Skull*, ascribed to Giorgione, might be an Italian Hamlet. "Romola" has made the name of the freakish Piero di Cosimo familiar in England. His large *Virgin and Child* reveals eccentricities. The animals resemble those in a toy Noah's ark. He no doubt had some difficulty in finding so hard a blue, but there is compensation for defects in the care taken in depicting flowers in the foreground. The *St. George* by Carlo Crivelli would be more remarkable if we could believe the armour in which the saint is clad was taken from a genuine example. The silver and blue are, however, more suggestive of a pageant, and might well be imitated on a modern stage. Another figure by the same artist of St. Dominic is, however, so realistic we can hardly suppose the first-named figure was imaginative. There would be no surprise if figures of St. Louis of France and St. Elizabeth of Hungary were introduced in a modern stained-glass window, but we cannot recall any instance of their appearance in a painting by an old master prior to one by Moretto of Brescia in the exhibition. The two could be considered as contemporaries, and both occupied exalted positions, but the woman in the painting who carries the basket of flowers is aged and draped like one of the "Holy Women," whereas the Hungarian queen died at the age of twenty-four. In modern representations the French king wears the grey Franciscan habit under the regal robe, but in the painting the habit is over the robe. It will be observed that religious pictures prevail in the first room. The majority might have been derived from oratories. If the whole of the works were of the same class, there would be that unity which is generally rare in Winter Exhibitions. As it is, the first room contains a sufficient number of examples to suggest the power which, during a long period, prevailed in Italian as in Northern art. As usually happens with early works, the authorship assigned has to be an exercise of faith. But the uncertainty is not without its advantages, for modern connoisseurship depends on efforts to identify painters by means of insufficient evidence.

There are some other works deserving of notice, but we must leave the consideration of them until next week.

THE CHICAGO CALAMITY.

It is not without hesitation we venture to allude to the terrible tragedy of which Chicago was the scene on Wednesday in last week. The consequences are so appalling they must affect people throughout the world. On such occasions it is brought home to the dullest mind how insecure is life and how suddenly we may be overcome whilst in the pursuit of pleasure. When a theatre is the agent of destruction the horror is increased. But when so serious an event is treated in an architectural journal it is immediately assumed by ignorant individuals that the tragedy arose from some neglect on the part of the architect or builder. Already too many cases of that kind of misinterpretation have occurred. The least defect in a building is made the subject of clamour, and unfortunately many men would if they were able award Jedburgh justice alone to those engaged in the construction and designing of a building in which an accident happened. "To hang an architect" is supposed to be not only a summary but an indispensable remedy to prevent faults of construction.

One of the proprietors of the theatre is reported to have exclaimed, "What is the use of building fireproof theatres if calamities such as this take place?" Allowance should be made for the owner if under such circumstances he uttered despairing cries and mentally sought to cast the blame on someone regardless of their innocence. But the words are expressive of a very common belief, which to some extent is based on imagination. All materials which can be employed are liable to disintegration by heat if applied to a sufficient extent. But in a structure intended for use, and especially in a theatre, which must appear to be light rather than ponderous, it is impossible to have throughout such a mass of matter as can be only superficially injured by great heat. The conditions of modern life would not permit of an architect selecting as a model an ancient theatre, or such a building as the Colosseum. Besides, even if such models were adopted all possibility of danger would not be removed. Modern audiences necessarily contain a large proportion of neurotic people who are easily excited, and disregard every consideration of the risk to others in their selfish excitement to secure individual safety. The law of the survival of the fittest is then displayed in its most brutal aspect. The cultivation of individuality brings the drawback, especially at such time, of an entire ignoring of solidarity and of that discipline which is the consequence of mutual training in co-operation. Bishop FALLOWS, who found his way to the fire at Chicago, and who was presumably once an army chaplain, says he never saw on the battlefield or in war "such a pile of twisted and bleeding bodies with blackened faces" as he discovered in the Iroquois Theatre. Could there be a more awful picture of a struggle? Another spectator declared that the stairways and exits were jammed with fighting humanity in a moment, that many of the women and children had been stripped almost naked in their mad efforts to escape, and that all the bodies he helped to remove were those of people killed in the crush. This witness, who was acquainted with theatres, came to the conclusion that if the audience had not become panic-stricken less than fifty would have been killed or injured. If the assembly of women and children had instead consisted of soldiers, or men as amenable to command as the regiment on board the *Birkenhead*, we consider that not one victim would have been overcome.

Until the evidence of experts is obtained it is impossible to determine how far the building succumbed to the unanticipated test to which it was subjected. The attention of correspondents has naturally been concentrated on the slaughtered hecatombs, and the theatre consequently became no more than a vast shambles, which all could denounce. But as far as can be made out the building is of the latest construction, and withstood the attack of the flames in a manner which was not disappointing. We can understand the architect at such a crisis upbraiding himself for employing wood in the building, but a theatre without wood would probably be without an audience. Indeed, it is open to question whether the care taken in construction is not one of the causes of accidents. Theatrical assistants knowing about the precautions adopted in the erection are likely to assume that they are emancipated from all risk, and can be as neglectful as they please because materials and planning are guarantees against danger. The reports of the way in which lights were handled, and, as it were, thrust among hangings and curtains, does not give a very high opinion of the common sense of the employés, and it may be doubted whether in the old days so much indifference would be possible. Then every stage-hand knew of the proximity of danger, and to any negligence on his part he would probably become a sacrifice. All the information tends to show that with proper care the building in Chicago was sufficiently secure, and that the loss of life must be attributed to other causes.

We have an indication that amidst the excitement following so stupendous a disaster the authorities were able to discriminate between the people who even remotely could be considered as causing the fire. We hear of the arrest of directors, actors, supernumeraries. But the only prisoner who can be regarded as connected with building is a municipal inspector. What is more remarkable is that the unreasoning multitude who are always prone to be led astray, and by some fatality pitch on innocent people as culprits, have not clamoured for vengeance against any of those who designed or constructed the Iroquois Theatre. This is a forbearance that is not only remarkable, but unique. The points which it is stated are to be submitted to the jury also confirm the view we have taken of the state of public feeling in Chicago about the origin of the tragedy. They are :—1. Were the steel doors locked when the outbreak occurred? 2. Were these doors opened promptly by the attendants? 3. Why was it impossible to lower the asbestos curtain? 4. Why was no provision made to prevent the lights in the flies from igniting the curtains? 5. Why were the doors shut and the people urged to remain seated?

It will be observed they all relate to administration, and there is no question of construction involved among them. The regulations which it is proposed to enforce hereafter are mainly of the same kind. It is suggested that every theatre must have wide exits; no combustibles of any kind to be allowed in the house; scenery to be made fireproof; skylights to be provided over the stage, fitted with automatic lids, to afford egress to smoke in case of need; gas jets to be enclosed in wire netting; separate stairways, each exit having a stairway connected with it leading to the street; no calcium or "spot" lights to be used on the stage. Wide exits, automatic lids and separate staircases are the only points relating to construction, and they are merely modifications of the existing arrangements in the unlucky theatre. It may afterwards be shown that disadvantage might follow the three proposals we have referred to, for it should be remembered that audiences are not always willing to undergo the inconveniences which sometimes are consequent on any excess in the measures of safety which are introduced for their benefit when contingencies arise. Exits and entrances in excess are supposed to cause draughts which are a permanent evil. For playgoers are particularly difficult to please, and approve of innovations in theory rather than in practice.

It has been stated that many departures from the local building regulations were tolerated. That is a subject which should be discussed during the investigation, which will follow or form part of the ordinary inquest. Charges of the kind are common in the majority of American cities, but they often appear to stand on very slight foundations. The possibility of having plans tampered with is one of the difficulties of the practice of American architects. Whether more doorways were shown on plans than were found in the building, as is alleged, can be ascertained, as well as the causes of the omission. The architect does not appear to have raised any objection of the kind, and until properly proved the allegation had better be passed over. Judging by what has been said up to the present time, it can be concluded that the American system of constructing theatres has not been found when tested to be a failure. That conclusion is not a surprise to anyone who has observed the remarkable scientific skill shown by American architects and engineers in the construction of buildings. Their care and forethought are ample and equal to any seen in practice in European countries. It may be said that builders and architect have come out of the present ordeal without a smoke-stain. But the fact that a secure building becomes of little avail when it encloses the expedients necessary for the production of a modern pantomime is enough to make one feel little pride in their soundest work. The sudden diversion of the thoughts of people when enjoying themselves is a factor no less dangerous, and is one for which brickwork, masonry and steelwork cannot provide, or against its consequences. But so long as a false impression is conveyed that a building is the primary cause of the destruction of a crowd, we must expect that at every theatrical performance the germs of destruction are to be found among the pleasure-seeking auditory.

The Pastel Society elected on Monday the following members :—Messrs. Dudley Hardy, Carton M. Park, Frank Mura, St. George Hare, W. Orpen, Jacomb-Hood, Hughes-Stanton, Frank Carter, Fred Stratton, C. MacIver Grierson, Alfred East, A.R.A., and Mesdames Mary Eastlake, Helen Bedford, Fortunée de Lisle, Bethia Clarke and E. Fortescue Brickdale.

Subscriptions are still sought towards the restoration of St. Giles's Church, Cripplegate, and the erection of a statue of Milton. Mr. H. Montford, the sculptor, will cast the figure in bronze and place it upon a Portland stone pedestal, the whole being about 13 feet high. Bronze bas-reliefs will be placed on two sides of the pedestal, the subject of one being taken from "Comus" and the other from "Paradise Lost." Milton is represented walking in his garden apostrophising the Spirit, and the head is modelled from Milton's bust at Cambridge, which was cast from life.

DUBLIN EXHIBITION, 1906.

THE following report by Mr. G. C. Ashlin and Mr. J. H. Ryan has been presented to the sub-committee of the organising committee of the Irish International Exhibition, 1906 :—

In accordance with your request we beg to submit this our report on the proposed site for this exhibition, general character and disposition of the buildings, arrangements of the grounds, and an approximate estimate of the probable cost of these works. The site selected in the Pembroke township appears to be eminently suited in every respect for its purpose It is most conveniently situated for access, having two lines of tramways in immediate proximity and numerous roads on all sides. The available area is ample for all the buildings that may be required. The general outline and conformation of the land, the presence of the river on the southern side, and the water supply that can be obtained from the mill-race above it, offer great facilities for the ornamental treatment of the grounds and for the formation of an artificial lake and other attractions in a central position. As this portion of the site is intended to be formed into a public park for the Pembroke township the necessary earthworks, ornamental planting and landscape gardening that may be required to make the surroundings attractive may be designed on a permanent basis, as they will thus serve a double purpose. We thought it, therefore, well to ascertain from the Pembroke township authorities the intended position of the roads, drainage, &c., and have made our general scheme to accord with these arrangements.

We suggest that the buildings be mainly of wood, with the external elevations covered with fibrous plaster, according to the system adopted in recent exhibitions. The Fine Art Gallery and Loan Collection would require to be of fireproof construction, and we propose that breeze concrete or steel stanchions be used for the walls and a steel construction for the roofs. The principal roofs and dome of the main exhibition buildings would also probably require steel trusses and stanchions. We have received no special instructions as to the number of buildings or amount of floor-space that may be required in the various departments, but as it was necessary for the purpose of presenting a fairly complete design and approximate estimate for your consideration, we have formed our opinion on these matters on the best information we could obtain from the experience of recent exhibitions. As soon, however, as a more accurate estimate can be made of the probable requirements as regards space the design can be modified accordingly.

The following is the descriptive list of principal buildings with their areas in superficial feet :—

Main Entrance Buildings.—Containing large hall, cloak-rooms, telegraph and other offices for officials, committee-room and covered way to fine art galleries, 8,000 superficial feet.

Fine Art Section—These would be mainly one-storey buildings, top lighted, and would contain picture, sculpture and loan collection galleries, 31,000 feet.

Liberal Arts.—This section would contain arts and crafts exhibits, *e.g.* stone and wood-carving, art metalwork, mosaics, &c., 19,800 feet.

Concert hall with orchestra, seats for about 3,000 people, refreshment-rooms, &c, 22,000 feet.

Main Exhibition Building.—This would form the central feature of the exhibition and would stand on a terrace overlooking the lake and agricultural department on the other side of the river. Its extreme dimensions proposed are 450 feet by 400 feet. It would be mainly devoted to general exhibits, but would contain four pavilions, which might be specially reserved to the provinces of Ireland. The central dome would form a prominent object in the view from the two main entrances, 150,000 feet.

Motor building, 12,000 feet.

Electricity Pavilion.—These buildings are placed in a prominent position and convenient to the boiler and dynamo-house, and to the central avenue, 12,000 feet.

Machinery Hall.—This building, which would be about 700 feet long, would adjoin the Doctor's Walk on one side, so that the machinery, fuel, &c., could be delivered to it by a temporary tramway without entering the grounds, 70,000 feet.

Boiler-house and dynamo, 12,000 feet.

Agricultural Buildings.—The site proposed for this department is at the south side of the river, and adjoins Anglesea Road for a length of 250 yards, from which convenient entrances could be obtained. The access from the exhibition grounds would be by two bridges across the river, as indicated on the plan, 40,000 feet.

Dining-hall.—This building would overlook the lake and bandstand on one of the islands ; it would be reached from the terrace of main exhibition building, and would be in immediate proximity with the concert-hall, 2,000 feet.

Small Detached Pavilions, Fire-station, Kiosks, &c.—These buildings would be dotted about the grounds in suitable positions as indicated. The cottages on the island might be devoted to special exhibits, such as Aran Island industries, 32,000 feet.

We estimate the probable cost of all the buildings enumerated in this list at 100,000*l.*

We have also indicated where additional pavilions might be placed in case foreign or other exhibitors wished to erect separate buildings to illustrate their specialties.

The ornamental lake will cover about 7½ acres, and be of sufficient depth for boating purposes. An ample supply of water can easily be obtained from the mill-race which supplies the mill-pond of Johnston & Mooney's Bakery, and as these waters will not be abstracted there will be no injury or inconvenience caused to the mill. It is also proposed to weir the Dodder river in places so as to improve its aspect opposite the main buildings. This may require the formation of river-banks or walling along the low ground so as to avoid flooding. We also propose on these grounds a switchback railway similar to that at South Kensington and other places and a water-chute.

We suggest that the site of the old Fair Green at Donnybrook end be utilised as a "sports ground" for international games, with the necessary buildings, such as grand stand, restaurants, &c, similar to that at the Royal Dublin Society's premises, but of somewhat larger dimensions. In addition to these works the whole area will be required to be fenced in and numerous subsidiary entrances and exits made. Roads and paths will have to be formed, with the necessary drainage. A considerable amount of terracing and retaining-walls will have to be provided at the southern side of main buildings where the level falls, and ornamental planting in suitable positions. We estimate the probable cost of these outworks at 50,000*l.*, making, with the previous estimate for the exhibition buildings, a total of 150,000*l.*

CHICAGO FIREPROOFING REGULATIONS.

IT is rather remarkable that for the annual meeting of the American National Fire Protection Association in May 1903 Chicago should have been selected. The American Institute of Architects was represented by Mr. William Bryce Mundie, who prepared the following report of the conclusions which were adopted :—

The Association discussed and approved the following rulings :—

"Buildings of class 1 shall have the walls, floors, columns, girders, beams, partitions, roofs and roof structures of brick, terra-cotta, concrete, steel, iron, or other such fire-resisting materials as shall be approved for this class of construction by the National Board of Fire Underwriters.

"All such structural steel or iron to have standard insulation against heat as described below. No stone bonds or caps or exposed metal column bases to be used in piers.

"This class shall be divided into class 1-A and class 1-B as follows :—

"*Class 1-A.*—Buildings having any considerable amount of combustible contents in any one room, such as warehouses, wholesale and retail stores, factories, theatres, &c

"*Class 1-B.*—Buildings not having any considerable amount of combustible contents in any one room, such as hotels, apartment-houses, hospitals, colleges, churches, schools (except trade schools), dwellings, office buildings, &c."

The following were also presented, discussed and adopted : —

No. 1.—Brick-bearing Walls.

"Walls of brick (when carrying floors) to be of good hard-burned brick laid in best of cement mortar with joints flushed full ; to be not less than 16 inches thick in two top storeys, increasing in thickness 4 inches each three storeys below or fraction thereof (or to be of an equivalent average thickness). If walls are over 100 feet long, they shall be 4 inches thicker than the above or they shall be strengthened by piers or pilasters placed not over 20 feet apart.

"*Example.*—Eight-storey buildings would have three 24-inch, three 20-inch, two 16-inch walls."

Note.—Class 1-B may have walls 4 inches less than above, but not less than 12 inches in any part.

No 2.—Exterior Brick Non-bearing Walls for Skeleton Construction Buildings.

"Shall not be less than 12 inches thick in any portion. If two such buildings adjoin, the party-walls shall not be less than 16 inches thick in any portion. The frames shall not be tied together." The Institute's representative suggested that the thickness of walls might be left to the architect as a subject for calculation of loads, span of joists, &c, and in the discussion leading into details of calculations he asked if the purpose of the meeting was to frame a national building ordinance, but was answered that it was only to give to the Board of Underwriters rules to secure additional protection from fire. He further referred to the great number of fires from defective flues, and suggested a clause in policies making owners liable for fires due to that cause, quoting the custom in France, that one can only insure against fires originating outside of his building.

The Institute's representative further saw no reason why one system of steel fireproof columns in a party wall should not support the beams of the two buildings, as is often done when the two buildings are designed at the same time, so that the heights of storeys for both are settled.

No. 3.—Brick Fire Division Walls.

"Division or section walls, intended as complete fire divisions or cut-offs, shall be of brick not less than 16 inches thick at any point if laid solid, or 14 inches thick including an air-space of 2 inches and tied with metallic ties, and shall extend continuously from ground to and through the roof."

Note.—In Class 1-B these walls may be 4 inches less.

No. 3 was passed.

No. 4.—Post or Column Covering.

"All vertical metal supports shall be insulated by not less than 4 inches of brick, or of concrete, or of terra-cotta, or of other such insulating material as may be approved by the National Board of Fire Underwriters, independent of any air-space next the metal. No piping or conduits to be located within the covering above required or between same and the column"

Note—Class 1-B may have 2 inches instead of 4 inches.

Note.—No plaster, whether or not on metal lathing, shall be considered a part of the covering required.

It was objected by the Institute's representative that pipes inside the fireproofing do not increase the risk, and that such items should be left to the architect to so place pipes that they should not, by sweating, rust the column, nor cause any injury.

No. 4 was passed temporarily with a view to revision in accordance with the ordinances.

No. 5—Girder Covering.

"All metal girders shall be insulated throughout by not less than 4 inches of brick, or of concrete, or of terra-cotta, or of other such insulating material as may be approved by the National Board of Fire Underwriters, except that the upper face of upper flanges may have not less than 2 inches of brick, or of concrete, or of terra-cotta, or of other such insulating material as may be approved by the National Board of Fire Underwriters."

Note.—Class 1-B as above, except that covering 2 inches thick may be accepted instead of 4 inches.

Note—No plaster, &c. (See Note, Sec. 4)

The Institute's representative stated that cement plastering on metal laths was a good protection and more liable to remain in place during a fire than the usual terra-cotta protection.

No. 5 was then passed.

No. 6.—Floor Beam Covering.

"All the metal floor beams shall be insulated by not less than 1 inch of terra-cotta or concrete, or other such insulating material as may be approved by the National Board of Fire Underwriters, applied as a solid mass"

Note.—No plaster &c. (See Note, Sec. 4.)

No. 6 was passed.

No. 7.—Spacing of Floor Beams

was discussed but without conclusion.

No. 8.—Material of Arches.

"Roofs and floors shall be of brick, or approved system of concrete, or of terra-cotta, or of other material which may be approved by the National Board of Fire Underwriters for such purpose, with satisfactory insulation of special supports or tie-rods."

No. 8 was passed.

No. 9.—Wearing Floors.

"Floor surfaces shall be of non-inflammable material."

Note.—In sub-standard buildings, if wooden top floors are used, they shall be laid directly on concrete without air-space under any portion.

No. 9 was passed.

No. 10.—Floor Openings.

"Stair, elevator and dumb-waiter shafts not extending through upper floor shall be entirely enclosed on sides and top in at least 6 inches of brick, concrete, or blocks of concrete or terra-cotta, or other such material as may be approved by the National Board of Fire Underwriters for this purpose, with metal studs at corners and openings, with standard fire-doors placed at all openings to each storey Each shaft extending through the upper floor shall be similarly enclosed to the roof and have a skylight with thin glass in metal sash and frame protected by standard metal screen. (Wired-glass not acceptable).

"All other vertical openings such as pipe or wire ducts or channels, except ventilating shafts, unless enclosed as above, shall be stopped with masonry or concrete at each floor.

"Ventilating shafts shall be enclosed as required for other shafts except that the necessary ventilating openings shall be protected by wired-glass in automatic closing metal sash, or by metal louvres rivetted into metal frames solidly set in the masonry of the shaft, the louvres being set at an angle to prevent draught from shaft into room.

"There shall be no light-wells within a standard building. No stone treads shall be used on stairs unless backed by satisfactory metal grille or mesh work"

No. 10 was passed.

No. 11.—Partitions.

"All partitions shall be of non-inflammable material. (No wood studs or framing)."

No. 11 was passed.

No. 12.—Finish.

"The quantity of combustible finish shall be reduced to a minimum, and none shall be placed in vertical shafts.

"Combustible lath and furring is to be avoided.

"We recommend the lining of outside walls with hollow brick that plaster may be applied directly on the bricks."

No. 12 was passed.

No. 13.—Roof Covering.

"Roof to be covered with non-inflammable material (slate not to be used unless laid approximately flat).

"Slate can have fireproofing separating the slate from the building, so that should the slate be broken and fall off during a fire the building would still be protected."

No. 13 was passed.

No. 14.—Superstructures.

"All roof houses to be of brick, concrete or terra-cotta. Unprotected iron structures not acceptable."

No. 14 was passed.

No. 15.—Skylights.

"Skylights to have metal frames and sash, and except over fireproof shafts (see No. 10) to be not less than ¼-inch wired-glass."

No. 15 was passed.

No. 16.—Waterproofing of Floors.

"Every floor to be made watertight by a special surfacing or stratum impervious to water, with special precautions taken at columns, walls, and at stair, pipe, wire, lighting-fixture or other openings"

Note—This waterproofing to be completed after plumbers, electricians, &c, have done their work. Watertight curbs at least 12 inches high are recommended as additional precautions at each floor about pipes, &c., which pass through the floor.

No. 16 passed. This is explained as intended to prevent water thrown at a fire in any storey leaking through upon goods in storey below.

BALAVIL HOUSE, KINGUSSIE.

We referred last week to the destruction of Balavil House, which was the residence of James Macpherson The following interesting account of its origin appears in the *Scotsman*:—

Writing from the Manse of Laggan on October 10, 1788, Mrs. Grant of Laggan says to a friend in Glasgow:—

"The Bard (*i e.* Macpherson) is as great a favourite of fortune as of fame, and has got more by the old harp of Ossian than most of his predecessors could draw out of the silver strings of Apollo He has bought three small estates in this country within two years, given a ball to the ladies, and made other exhibitions of wealth and liberality. He now keeps a Hall at Belleville, his new purchased seat, where there are as many shells as were in Selma, filled, I doubt not, with much better liquor"

The "Hall at Belleville" here referred to was not the modern mansion of Balavil, which was not then built, but was probably the old mansion-house of Raitts, which belonged to Mackintosh of Borlun, and was acquired about this time by Macpherson Mackintosh of Borlun was a minor Highland laird who disgraced himself by highway robbery, and was obliged to flee the country for an exploit of the kind—the robbery of Sir Hector Munro of Novar—which brought his associates to the scaffold The widow of this bandit lived into the nineteenth century, was a guest at the Kinrara parties of Jane, Duchess of Gordon, to which she used to come in a common farm cart, and was well known to Sir David Brewster. The site of Raitts, now Balavil, is, however, associated with two darker pages in the history of the Clan Chattan—the slaughter of the Cumyns by the Mackintoshes, and the massacre of the MacNivens by the Macphersons—tales of blood so gruesome that the happiest that can be said of them is that they are legendary.

The ancient "Hall," however, did not long content the bard, for two years later we find Mrs. Grant (October 10, 1790) again writing to a friend :—

"Mr. Grant was at Belleville visiting Fingal in the beginning of this week. That tender and sublime bard has, contrary to the usual fate of authors, enriched himself by talents of one kind or another. He has purchased an estate in a beautiful spot on the Spey twelve miles below this, where he keeps a 'hall of shells,' and, indeed, lives with the state and hospitality of a chieftain. . . . He is now engaged in building a house which is to cost 4,000*l*. Only think how this must dazzle people accustomed to look on glass windows as luxury and on floors as convenient but by no means necessary appendages to a building. I am the only lady in the country that has not yet tasted of his 'shells' or been warmed by the flame of his oaks. Judge how domestic I am with my twins."

In October, then, of 1790, Balavil House was a-building. The storms of 113 Highland winters had not scathed the stately pile, but now three hours of flame less kindly than the oak flames of the bard have laid it in ashes

Adam was the architect of the building. There were no trades union rates in those days, but Macpherson appears to have been a generous employer. "He built his house," says Dr. Carruthers, in his "Highland Note-Book," "not by contract, but by native workmen, whom he paid liberally on day's wages, and he was the first person in Badenoch who gave one shilling a day to agricultural labourers, who had previously received only eightpence and ninepence. Scores of them were employed on his grounds and in forming his embankments."

There is an old Scottish superstition that the fate of him who in sacred allegory pulled down his barns that he might build greater attends him who pulls down an ancient mansion and builds a larger modern one. The story of Macpherson does not confound that belief, for upon February 20, 1796, we find Mrs. Grant of Laggan again writing :—

"'Why dost thou build the tower, son of the winged days? Soon wilt thou depart with thy fathers. The blast from the desert shall rush through thy hall and sound upon thy bossy shield.' Do you recollect, dear madam, that when I stopped with you at the gate of Belleville I repeated those lines and observed what a suitable inscription they might prove for the front of poor James Macpherson's new house? It would appear I was moved by a prophetic impulse when I predicted that he never would see it finished. . . . He was perfectly sensible and collected, yet refused to take anything prescribed to him to the last, and that on the principle that his time was come and it did not avail He felt the approaches of death, and hoped no relief from medicine. . . . He died last Tuesday evening, and from the minute he was confined until a very little before he expired never ceased imploring the Divine mercy in the most earnest and pathetic manner. . . . He was a very good-natured man, and now that he had got all his schemes of interest and ambition fulfilled he seemed to reflect and grow domestic, and showed of late a great inclination to be an indulgent landlord and very liberal to the poor, of which I could relate various instances more tender and interesting than fleshly or ostentatious. . . . So lived, so died James Bellavil, for that is the true Highland name of the place. I have been diffuse, perhaps tedious, in what concerns the exit of this extraordinary man, because I thought you might, like me, be anxious to know how people quit the world who have made any noise or figure in it. His death found me sad, and has made me sadder"

It will be observed that Mrs. Grant gives "Bellavil" as the true Highland name of the house. On that matter Mrs Grant is not a quite satisfactory authority, as Gaelic was with her an acquired tongue The old name of the place in documents and maps was "Raitts." Gaelic people call it "Bail'-a'-Bhile," "the town of the brae top." Some maintain that the place was so called before Macpherson purchased it, and that he changed the name to "Belleville" as being more elegant ; others assert that "Bail'-a'-Bhile" was adopted locally, because it sounded like "Belleville," and accurately described the situation. These, however, are matter of conjecture It is certain that Macpherson himself called it "Belleville," and that his descendant, the present proprietor, altered the name to "Balavil," and probably most people will deem the change an improvement

No such fire as that which on Christmas morning destroyed the noble mansion has been seen in Badenoch since the castle and barracks of Ruthven were burned down by the Highlanders two days after the Battle of Culloden. Here the clans had rallied for the last time—only to disperse by order of the Prince. James Macpherson, then a boy of ten, living in a thatched homestead, must have seen that forlorn gathering and watched these mantling flames. Doubtless, as a cadet of the house of Cluny, his sympathies were then with the lost cause. Yet he lived to be a loyal subject of George III., to sit in the British Parliament, to earn a greater fortune as the servant of a Hanoverian Ministry than was brought him even by the substantial rewards of his literary efforts, to help by his influence to restore the family estates to Cluny's son, and to be borne at last from his beloved Badenoch to claim a resting-place in Westminster Abbey.

The literary problems and controversies which centre round the name of the builder of Balavil are not here touched upon. But, leaving all controversy aside, there is nothing in literary history more strange than that this shrewd, plodding, prosperous Anglo-Scot, who wrote not a line after he was twenty-five which rises above the level of ephemeral pamphleteering, should as a youth have touched for a moment the harp and drawn a note that reverberated throughout Europe, and should have transfused the veins of literature with a strain of fresh blood from a vanishing Celtic past.

Through the marriage of Sir David Brewster to the second daughter of James Macpherson, the estate of Balavil passed into the family of Sir David, whose grandson, Mr. Brewster Macpherson, is the present proprietor. The life of Sir David Brewster teems with references to the stately mansion and to the home life on the Spey. Commanding and beautiful in its situation, charming in its surroundings and spacious and complete in its equipment, the mansion-house has always preserved its old tradition of hospitality and benevolence, and the prayer of every inhabitant of Badenoch must be that the word "Resurgam" may be found written in its ashes.

METAPHYSICS AND ART.

MANY causes have concurred to place art and science at variance, but these causes have been gradually diminishing, and in the present advanced state of the mechanical and useful arts they have almost wholly disappeared. It is in the fine arts principally, and in the speculations with which they are associated, that the controlling power of scientific truth has not exercised its legitimate influence. In discussing the principles of painting, sculpture, architecture and landscape gardening philosophers have renounced science as a guide, and even as an auxiliary, and a school has arisen whose speculations will brook no restraint and whose decisions stand in opposition to the strongest convictions of our senses. That the external world, in its gay colours and lovely forms, is exhibited to the mind only as a tinted mass, neither within nor without the eye, neither touching it nor distant from it—an ubiquitous chaos which experience only can analyse and touch transform into the realities which compose it ; that the beautiful and sublime in nature and in art derive their power over the mind from association alone, are among the philosophical doctrines of the present day which, if it be safe, it is scarcely prudent to question. Nor are these opinions the emanations of poetical or ill-trained minds, which ingenuity has elaborated and which fashion sustains. They are conclusions at which most of our distinguished philosophers have arrived. They have been given to the world with all the authority of demonstrated truth, and in proportion to the hold which they have taken of the public mind have they operated as a check upon the progress of knowledge. The same distrust of the senses has led many distinguished metaphysicians to maintain the extraordinary paradox that during our infancy we see all objects double and turned upside down like their pictures on the retina, and that it is only by experience and the assistance of the sense of touch that we are initiated into the mystery of single and erect vision, and thus learn the true number and position of external objects. It would be interesting to know, if the authors of such opinions can inform us, what the process is by which the infant has been taught these important lessons, and what the time is in which that wisdom has been acquired. Knowledge is not conveyed instantaneously even to adult minds, and there must surely be various steps in the alphabet of vision by which the child acquires its knowledge of the unity and uprightness of its nurse. The double picture must have passed into one—by halves or quarters, or some infinitesimal progression—and the figure with its head downwards must have performed its journey of rotation through an arc of 180 degs. till it settled in its natural position. While opinions like these were considered as sound and well established, philosophers never thought of studying the laws of visible direction in single and double vision, by which all the difficulties of the subject have been subsequently removed.

Mr. G. Percy Pratt, A.R.I.B.A., of City Bank Chambers, Bedford Row, W.C., asks us to state that his name should have been mentioned as competitor in the competition for the county school, Acton, instead of Mr. H W. Pratt, which was given in the article on "Architecture in 1903" last week.

NOTES AND COMMENTS.

One familiar landmark will in a very short time no longer exist in Paris. The spiral staircase which surrounded and supported the tube of the artesian well and its framing at Grenelle is now being removed. If tested by a modern standard the structure would not be considered a stupendous work, but in 1842 it was accepted as a triumph of engineering, and was more graceful than the vertical tubing seen in some of our waterworks. An engraving of it was introduced in children's books as if it formed one of the wonders of the world. A new source of supply having been obtained, the wells at Grenelle and Passy are no longer essential. The fine site of the Grenelle tower, which was on line with the Invalides, is to be used for the Pasteur Memorial. M. Charles Girault, the architect, has had the masonry of the substructure prepared in order that it can be erected as soon as the ground is cleared. M. Falguière's sculpture is also ready. It is therefore hoped that early in the year the memorial will be inaugurated. Pasteur was not a native of the Grenelle district. He was born at Dôle and was the son of a tanner. The selection of the site is owing to its suitability, for it is about the most eligible for a great memorial which remains unused in Paris.

The opportunity offered by the appointment of the Home Office committee should be utilised by builders and others to make known the deficiencies of the Workmen's Compensation Act. A circular has been issued by the Home Secretary asking for observations and suggestions on the following subjects:—1. The pecuniary burden imposed by the Acts and the incidence of the cost. 2. The proportion of cases settled out of court—*i.e.* by agreement, agreed arbitrator or representative committee—to the number brought into court. 3. The practice which is alleged to be common of commuting the liability for weekly payments by the payment of a lump sum. 4. The extent and effects of the practice of insuring against the liabilities imposed by the Acts. 5. Contracting out. 6. How have the Acts affected friendly societies, accident and other benefit funds, &c.? 7. Have they affected the employment of the old, weak, and partially maimed? 8. Is recourse often had to the Employers' Liability Act in preference to the Workmen's Compensation Acts, and if so, in what class of cases and for what reasons? These points are only intended as instances of important questions which will probably arise in the course of the inquiry, and observations are invited on any other matter which falls within the scope of the committee's inquiry and appears to be of sufficient importance to require their consideration.

The "Official Year Book for New South Wales" in 1904 may be said to take time by the forelock. It contains the usual information which is expected to be provided in publications of its class. The interest of Englishmen in all parts of Australia is growing, but if they are members of any of the professions they had better resist all allurements to emigrate. Although the building trades are said to be enjoying a fair amount of prosperity, additions to architects or workmen are not sought. In one place we read:—"There appears to be a strange fascination in the study of architecture, for the number of architects in New South Wales is out of all proportion to the demand for their services, despite the steadily increasing activity in the building trades. Most of the Australian architects have travelled a great deal and have comparatively little to learn. They all have pupils of more or less promise, and many others are receiving instruction in the Sydney Technical College or in private classes." Nor is there much chance of an engagement in allied occupations. The supply of engineers, surveyors and draughtsmen is stated to be in excess of the demand. As for ordinary land surveying, we are informed:—"There are few, if any, remunerative openings, the ranks of the profession generally being crowded with thoroughly competent men, familiar with the physical characteristics of the country and conversant with the numerous requirements of the land and mining laws. Most of the professional surveyors have pupils and assistants, many of whom, in due course, commence business on their own account." Various incidents have induced people in this country to imagine that Australians have a remarkable love of fine art. It does not, however, extend to the purchase of paintings and drawings. The candid compiler of the "Year Book" says:—"Although a taste for art is being rapidly developed in New South Wales, it has not reached that point at which it becomes the custom of the opulent classes to decorate the walls of their mansions with pictures specially painted for them, their expenditure being chiefly in the direction of costly artistic furniture and interior decoration. There are numerous teachers of drawing, painting and the decorative arts in Sydney and the leading cities and towns, but few obtain more than a modest competence. Hence there is a tendency on the part of the more talented members to quit the State and seek their fortunes in Europe or America." In other professions there is a similar suggestion that new colonists are not desirable. Great Britain is, however, expected to be magnanimous and to uphold Australia and other regions without hope of profit.

ILLUSTRATIONS.

ROMAN CATHOLIC CATHEDRAL, WESTMINSTER: NAVE, LOOKING NORTH, SHOWING ORGAN.

The new cathedral at Westminster was used last week for the enthronement of Archbishop Bourne, the successor of the late Cardinal Vaughan. The interior of the great work designed by John Francis Bentley must long remain in an incomplete state, showing only brick walls, concrete domes and vaults, &c. The marble lining, which will be 40 feet in height, and the mosaics above will have the effect of transforming the appearance of the nave. The impression made on the visitor by the cathedral as it stands is, however, one of grandeur, and there are enough indications to enable any architect to realise what the interior will become when the designer's intentions are more completely realised. Then the sanctuary will still appear to be the most important part of the cathedral, for all the ornamental work will have its climax in the altar and baldachino. As our readers are aware, we have published several illustrations of the exterior of the building.

HOUSE AT ASCOT.

This mansion was recently erected for Sir William Miller, Bart. It is of local red brick with Broseley tiles on roof and half-timbered gables. The whole of the work was done by Messrs. Nightingale, of Albert Embankment, except the decoration of the drawing-room. This is in the Louis Quinze style, of a very elaborate design, and was executed by the Decorative Arts Guild. The site is on the brow of a steep slope, and presented many difficulties. The gardens and grounds were most effectively laid out by Mr. W. Innes Stuckey, of Piccadilly Mansions, W. The architect is Mr. G. Hamilton Gordon, of 19 Old Queen Street, Westminster, and Salisbury.

NEW OFFICES FOR CHRISTCHURCH MEAT CO., HEREFORD STREET, CHRISTCHURCH, N.Z.

The building shown in illustration, for which Mr. S. Hurst Seager, A.R.I.B.A., is the architect, will be built of red brick and white stone, and will have a frontage of 50 feet and a depth of 100 feet. The main entrance will be 10 feet wide, with wrought-iron gate. The basement of the building will consist of a cellar (50 feet by 70 feet), strong-room, hat and coat-room, sanitary conveniences and a heating chamber. The main entrance on the ground floor opens into a large chamber 50 feet by 64 feet, with a height of 17 feet. The secretary's room (15 feet by 12 feet) is on the left, and the sales-rooms and counter on the right. On the left side of the large chamber is the clerks' department, and on the right a public space 64 feet by 9 feet. From this, at the northern end, access is gained to the managing director's room (20 feet by 15 feet), and from this to the board-room of the same dimensions. There will be sixteen offices on the first floor, with strong-rooms and other conveniences, the dimensions of the rooms ranging from 15 feet by 11 feet to 20 feet by 15 feet.

DESIGN FOR A SMALL SUMMER-HOUSE FOR A GARDEN

SIR THOMAS LAWRENCE.

THE exhibition of several of his pictures at the Royal Academy will enable the public to judge of the merits and shortcomings of Sir Thomas Lawrence. As an artist he was subjected to more than the usual amount of criticism. The following estimate of his qualities appeared soon after his death and suggests the severity with which he was judged :—

In the wide range of the history of artists we are not aware that ever the genius for painting developed itself so early as in Lawrence, for we find that before an ordinary child can well distinguish a pen from a pencil, or one colour from another, Lawrence was already in the field wielding the crayon and stamping on paper the lineaments of his elders. Coupled with his genius his intuitive talent was astonishing—we mean by talent to separate it from genius—genius is a feeling, an "impelling fancy," to use Lawrence's own words ; talent is the power to portray. By the dates in his biography we perceive that between the age of ten and twelve he copied in crayons several of the masterpieces of the old painters ; the "Transfiguration" of Raphael, the "Aurora" of Guido and several others. These we have seen. The "Aurora" we have looked at with wonder ; it is exquisitely copied, and though it has been rubbed and abused by time, its beauties are still great. There is a buoyancy and elasticity in the movements of all the numerous figures, well preserved from the original ; and for a child to have perceived these beauties, and acuteness enough to copy them, displays an extraordinary gift of genius never before seen. Young even as he then was, no doubt the grace and voluptuous loveliness of Guido found a congenial sympathy in his poetic mind ; for in the soul of Lawrence were centred the elements of the most exquisite and refined poetry of mind and delicacy of taste, enthusiasm and love of art. But still, extraordinary to say, with all these transcendent attributes, there is a something yet wanting which his genius never supplied, and this something it will be our office hereafter to define. Like all precocious geniuses, the after-career of the man never realised the promised excellence of childhood ; for whether as applied to painting, acting or any other of the multifarious pursuits of life, precocity of talent generally dwindles into insipidity in after years. This is easily accounted for ; for when we reflect, what are the qualities which constitute the superiority of one man over another ? what is the nature of that power by which one man supports his supremacy through the world, by which his works are the object of study to the rest of mankind, which exhaust the talent of ages to understand and elucidate—but mind ? Mind gives depth and solidity to thought, and the effect of that thought is ever apparent in its accomplishments. Lawrence drew and took likenesses at an age when he knew not why or wherefore he did so : he knew of no rules and principles of the art ; he was not aware that the discursive flights of genius require the sobering hand of general rules, which should divest them of incongruities to make them appreciated by the eye of taste. True, it may be said, he was too young to understand all this—granted. But if, then, he was too young to have been sensible of the necessity of looking to nature and rules of art, as he increased in years he also increased in mannerism and became incapable of adopting them ; we might almost say that he had painted by instinct, and when reason came into operation found himself too shackled in the manners of his earlier days to be enabled to disentangle himself from their pernicious effects. The great misfortune of Lawrence was, he painted too soon ; his mind, his reasoning faculties, did not keep pace with his intuitive aptitude for handling the crayon ; for it is as necessary that reason should guide that as that it should control the studies of metaphysicians and philosophers The genius that is progressive, that which is controlled and aided by thought and the study of known and established laws will always produce works that court our judgment and admiration in tangible and substantial features. As a genius, then, Lawrence was peculiarly gifted, we should say to excess ; for if there had been more of thought and less of precocity, the more lasting would have been his repu tation, and with a better grace should we have classed him with the illustrious masters of the art

The warmest admirers of Lawrence—and be it understood we are of that number—must acknowledge his inferiority to Reynolds, even as a genius. Genius, like every other quality, admits of gradations of beauty and power. Lawrence was a precocious one ; Reynolds possessed a latent one, which was progressively developed as nature and the varied scenes of life acted upon his dawning intellect and senses ; in short, his genius was based on mind, as his after-career demonstrated ; it became stronger as he increased in years, and derived additional benefit from the continual stimulus of refined society. It was this superiority of mind which united him in such close and honourable bonds of friendship with Burke and Johnson ; and it fully verifies the maxim that there never can be a firm and lasting friendship unless each party is fully impressed with respect and admiration for the talents of each other. Where there is an equality of mind there will be a just veneration ; where it is otherwise the natural vanity of man will induce the superior one secretly to despise the other. As we have before said, the genius of Reynolds was based on the solid foundation of mind, not displaying itself in any extraordinary manner in childhood ; this was the reason why his juvenile efforts were set down by his father as the proceeds of idleness, and the intuitive performances of Lawrence as wonders. The genius of Opie was precoce, but of a most masculine nature. Unacquainted with the least refinement of mind, the vehemence of his native genius breathes in every touch of his bold and rapid pencil—clothes the language of his thoughts in strong and vivid expressions. Lawrence, gifted with a genius refined as it was extraordinary, embodied in a form and countenance beautiful and captivating, caressed by women and flattered by the men, grew up effeminate in every action and movement of his after life. Reared, then, in the enervating sunshine of such a Calypsian throng, what could be otherwise expected than that the amiability of infancy should degenerate into insipid courteousness when arrived at manhood? But let us be set fair in the eye of the world ; these opinions are given from no invidiousness of feeling—far otherwise. Justice and impartiality, according to the judgment which we have formed from the comparison of his works with those of his contemporaries and predecessors, alone have actuated us If we are shown to be in error, no one will be more open to conviction. As a genius he was great for the early development of his powers only, for as to real excellence in painting he is out-eclipsed by others whose advance was more gradual, with whom the genius for art became stronger and more acute as the perceptive organs of the mind expanded, as that mind was impressed with the actions and scenes of nature and life We now, then, come to his next character as a draughtsman.

Drawing is the essence of the pictorial art, but in the region of the fine arts there have always been three modes of representing objects—by outline, by colour and actual form by sculpture. The first has been consecrated by the unanimous opinion of ages as the most elevated and grand, and to the masters of it, of course, is decreed the possession of the highest genius in art. At the head of this class is Michel Angelo ; every age from his time to the present has ever been ready to award him its homage and veneration. In the school of Michel Angelo England can boast of no master ; the only one approaching to him was Fuseli. Nor have we one to rank with the less severe style of Raphael. The genius of Raphael was the genius for high art, but it was softened in the innate loveliness and poetry of his nature. The lines of Michel Angelo awe us into reverence ; those of Raphael win our affections by their delicacy and feeling. The one represented a race of giants and falling angels, the other the outpourings of maternal love and female loveliness. In his cartoons the genius of Raphael approaches to the severity of Michel Angelo. To the Roman school, then, we cannot as yet approximate, but by the standard of high art the lower departments of painting have been successfully studied. The Venetian, Florentine and Dutch schools are those to which our artists can be more justly assimilated. To embody form through the medium of colour is the range of the ornamental style, and the professors of that style the taste of this country always encourages. As draughtsmen, the masters in this department have always been deficient in correctness ; but again, as colourists the draughtsmen have always failed The same powerful "impelling fancy" that stimulated Lawrence to painting in crayons of course acted in the same manner as to his drawing ; he found both so easy of accomplishment that his judgment was obscured as to his faults. This blemish remained with him through life ; for it cannot be denied that the man of intellect and mind who is conscious of a particular defect will always exert his best endeavours to correct it, but he who inwardly feels his power gives his genius to unguided play, too idle or too vain to correct, or perhaps by habit has become too accustomed to his error to be enabled to observe them. Thus it was with respect to Reynolds and Lawrence. The genius of Reynolds led him to colour, and deficient as he is in correctness as a draughtsman, there is less slovenliness of execution, both as regards painting and drawing in his works than in those of Lawrence's The drawing of Lawrence is elegant and light, captivating in its contour and practical in effect ; but still it is feeble, it is weak ; it breathes the very elements of his mind, gentleness and amiability. The rude but vivid forms and etchings of Rembrandt display a mine of wealth, a poetry of imagination, such as found no similarity in any single touch of Lawrence's. The portraits of Reynolds speak of the mind of the man—deep, reflective and vigorous ; always soaring to flights of higher excellence, but kept down by the paucity of his genius for high art. But mark the beneficial results ; the consequences of such ambition expressed itself in every emanation of his pencil ; this stamps the vigorous mind of the man. Reynolds invested his male portraits with the air and dignity of men—men ennobled through the expansion of intellect ; their features and attitude partake of the solidity and squareness of their sex. In the portraiture of women he is unrivalled; they are women beaming with the modesty and grace of their nature, divested of the simpering affectation and air of fashion. Ornaments he discarded, and avoided every adventitious aid. His children are the perfection of simplicity and infantine joyousness; from the Jupiter in infancy to the child of the peasant nature is stamped in every touch; in this respect he is excelled only by Vandyke. The portraits of Lawrence—of men, women and children—partake of the reigning fashion of the day. His men are courtiers; his women the slaves of fashion, glittering with jewels and meretricious ornaments, inhabitants of the emblazoned drawing-room and exclusive boudoir; his children, the heirs of coronets and titles, the tools and pupils of the dancing-master. As to his drawing, then, while admitting that it is elegant, graceful and pleasing, do we not regret the absence of vigour, richness and effect? When claiming for him the disputed concession of excellence, can we refrain from comparing the powers of his crayon to the whirlwind vigour of Rubens's, the noble and elevated feeling of Vandyke's, the solemn grandeur of Titian's and the magical depth of Rembrandt's? Drawing without vigorous feeling can be redeemed by no attributes of grace, and of grace there is one the pure grace of nature, another the grace of art. Can it be disputed as to which of these two has reference to Lawrence? Art is the medium through which to represent nature; consequently it is not nature but art which must always be subservient. Granting that Reynolds did not mark out the individual bones and features so minutely as Lawrence, yet which of these two artist's representations of nature more closely approaches excellence and truth? Assuredly Reynolds's. The drawing of Lawrence must be judged of only with respect to his small ones in chalk; here he rises superior to Reynolds by the delicacy of handling and minutiæ of lines, but not in grace, elegance and expression, for it is not lines which give the representation of nature but colours. Colour is perceptible to the commonest eye, when lines only appear crude and unharmonious. As a draughtsman Lawrence belongs to the school of elegance, that is, the elegance of artificial life. He ranks with Guido in the theatric air of his line, not in the latter's depth and harmony of colour.

We now, then, come to consider Lawrence in the light of a colourist. In this department of painting he has but slight claim to advance to rank with those who have excelled in this line. We are aware that many individuals will protest that he is a beautiful colourist, superior even to Reynolds. But those who make this declaration, and hold this opinion, are only persons whose tastes have become vitiated by the prevailing predilection of following the example set them by the reigning fashion of the day, who conceive that the painting of a flaming red curtain and raw blue sky constitutes the very essence and perfection of colouring. But as we have more than once before observed, there is no term in painting more misunderstood than what is meant by colouring. Colouring in a picture, to look like and possess the real harmony of nature, should consist of as few colours and be as little decided in tone as possible. From this simple knowledge proceeds the excellence of all the greatest colourists, the beauty of Veronese, Titian and Correggio, Vandyke, Rembrandt, Teniers and Ostade, our own Reynolds, Hoppner, Romney and Wilkie. But, on the contrary, Lawrence neither had harmony in the flesh nor in the general colouring of his paintings. His flesh-tints are hard and bony, dry in texture and have not the soft mellowness of nature, and his faces want roundness; he mistook the breadth of nature, and painted instead the breadth of a flat surface. For his effects he relied not on the harmony of nature, but on the objectionable contrasts of decided whites against deep black, blues against reds. This monstrous jumble and caricature of nature has vitiated the taste of the present day, and nothing will please but red curtains and blue skies; its pernicious effects are visible in the works of every one of the portrait-painters of the day, with a few exceptions only. More than one fancies he is creating for himself a high name in art by following this style, and considers himself very nearly, if not quite, equal to Lawrence, as he copies his affectations and frippery. A second is not content with barely imitating Lawrence, but actually "filches" whole portions of sky, curls, mouths and twists of the neck. A third thinks himself a Titian because he paints red curtains, blue skies and cabbage-like trees in the style of Lawrence and naked figures like Etty. While another fancies himself a Watteau, because he paints ladies in straing-coloured gowns and well-dressed heads of hair, which only show his fitness for a man-milliner or a barber.

Lawrence has three distinct styles in his manner of painting: his first, before coming up to London; his second, during the life of Reynolds; his third, when he lapsed into a style between his first and second—the worst of all the three—one in which he painted to his death. When he commenced as portrait-painter he had not received any instruction, was totally unacquainted with works of art, and his own fancy directed his hand, uncurbed in all his practices; coupled with this, his own effeminate tone of mind, the flatteries of misguided parents and friends tended to generate that insipidity and meretriciousness which never left him. Amiable, gentlemanly and courteous himself, of course the same contour and air would pervade his portraits—this was the magic, the magnet which attracted the crowds to pay him the homage which he received, particularly from the softer sex. Deficient himself in vigour of mind, of stirring, wild and daring ambition, his eye was content with the faintest flow of line, wanting in every requisite to form a first-rate performance—elegant and graceful, we regret the absence of vigour, we in vain look for that masterly touch which would make the canvas, as it were, feel the impression of the pencil. Up to the period of his coming to London this was his manner—a style which, while it is more likely to attract patronage and superficial applause, leaves the painter minus in reputation when he puts forth his claims to rank with the great masters of the art. The interview which is recorded to have taken place with Sir Joshua Reynolds on Lawrence's arrival in London is extremely interesting. The career of the old and illustrious President was then nearly at an end; his genius had levelled the barbarous absurdities of his predecessors, and he was about to leave to his country as a legacy the inspirations of his mind, which were for ever after to influence the universe of the arts and manners of society. His fame had been widely spread, his house was the resort of all the talent and genius of the country of every profession, and in his decline came the future President for instruction, to attend to precepts which came forth with all the solemnity of the oracles of old. To any youth it must have been a feverish, anxious moment, to be scrutinised by so searching an eye, but to Lawrence more particularly so, for in spite of his innate and harmless vanity he possessed all the sensibility of feeling which characterises genius. He before had been following his own ideas too much, and when Reynolds pointed out his defects he found how much he had to unlearn (ever an unfortunate resource) and how much more to imbibe. To the honour of Reynolds be it recorded that to his death he kept a watchful eye on the progress of Lawrence, and the influence of such a master-spirit can be visibly traced in his style of this period. To his own light and graceful manner he united the solidity, richness and exquisite breadth of Sir Joshua; he then looked at the future rewards of posterity; he had the Temple of Fame ever before him; he felt himself under the influence of one who shortly would take a high place in that august assembly of departed genius; and to one of like sensibility with Lawrence such ideas must have operated strongly. No painter ever studied nature with such unwearied assiduity as Reynolds; to look in his works for example and beauties can never be productive of ill. In founding therefore his style upon that of Sir Joshua's, Lawrence's own genius was of that nature that prevented his ever becoming a mere imitator or sinking into a mannerist.

It is not to be supposed that so masterly a style of painting as that of Reynolds—so totally unlike what had ever been seen in this country—should not have had its imitators, and of all his numerous followers Hoppner was certainly the best. Hoppner was a genius, free in his handling, simple in colour, when he had Reynolds in view; but perhaps went beyond his master in failing to define the minutiæ of a face. After the death of Sir Joshua he was the only one who preserved his style; and during his life he was a powerful rival and competitor with Lawrence. Reynolds died in 1792, Hoppner in 1810, and during that period of eighteen years the excellence of Lawrence was prominently displayed; it was the most brilliant course of his life as respects the beauty of his works. However, when he found himself alone in the empire of the arts, no one to dispute the supremacy of his career—for, indeed, after Hoppner there was not anyone of genius, Opie was also gone—the natural effeminacy and indolence of his disposition broke forth. There was no rival, increased exertion was not requisite; his love for the art was no doubt as enthusiastic as ever, but competition had ceased, and when that is the case we are too apt to be satisfied with our own exertions. As in everything else, so it may be justly applied to painting, that competition and severe rivalship are the surest means of exciting the utmost powers of a man. From this period is to be dated his decline, and an examination of his works bearing date after 1810 or 1811 will prove it. Even, however, preceding the death of Hoppner—for this artist for the last few years of his life was subject to constant illness—he had lost his vigour of painting, his richness of colour and artist-like manner. Fully to verify our opinion, we beg to call to the remembrance of our readers his portraits of Lord Castlereagh and Lady Georgiana Fane. Lord Castlereagh was a very fine, handsome personage, and a statesman to boot, and one of whom Reynolds would have produced a masterpiece; but Lawrence made him a plain gentleman, with a finikin sentimental contour of the body, and no less sentimental expression of features, smirking with self-complacency and ease. Lady Georgiana Fane he represented in short petticoats, leaning against a bank, with a forced expression looking up.

When we saw this painting we were perfectly amazed that Lawrence could have been so negligent: bad drawing, bad colouring, a disagreeable tone of brown pervading the whole, and a confused, unmeaning background; there is an appendage of a goat or kid drinking close to the feet of the child, which at first sight is difficult to make out. This picture has been engraved in mezzotint, which in our opinion is superior to the original.

Again, in his "Hamlet" his negligence is strongly perceptible: on looking at it at first, it is difficult to trace the form of the retiring leg, and when it is discovered it is almost transparent, being so slightly painted: the whole picture wants firmness; the countenance, however, is expressive of contemplation.

It would far exceed our limits to go through the whole of his paintings, therefore we shall mention none but for exemplifying our remarks. We must, however, say something of his Waterloo Gallery. The idea for the establishment of this gallery must be acknowledged as a most kingly act of George IV., but we do not hesitate to say that it would have redounded more to the honour and memory of that monarch if more than one artist had been commissioned in its formation. To throw the whole patronage into the hands of one man, who already was overwhelmed with commissions, when the national Academy of the country possessed other men of talent, was not a worthy act. Favours of which a single artist is the object carry discouragement to the souls of all his competitors; to make one happy it makes a hundred miserable. There was one artist at least who was worthy of such a commission—the late John Jackson. Jackson's style was founded on the manner of Reynolds, and his genius was of that high order that invests his pictures with a power and force surpassed only by his great predecessor. But to the Gallery. In our opinion Lawrence's best paintings were "The Pope" and "Cardinal," "Metternich" and "Earl Bathurst," and even of these the last two are decidedly superior. There is a finish and brilliancy about them peculiarly his own style; not the brilliancy of Rubens or Vandyke, Rembrandt or Reynolds, but a glittering brilliancy more properly termed meretriciousness, but still particularly captivating and pleasing to the general observer. Most people are more likely to be pleased with what is light and engaging than with a grandeur arising from simplicity of form or principles; because the one appeals to their senses without any effort on their part necessary to understand it, the other requires that the thinking powers should be exercised. Of "The Cardinal Consalvi," the mouth was out of drawing, being too much on one side, and both in this and "The Pope" there is a flatness in the face, a want of fulness in the flesh—which indeed may be generally observed of his painting of flesh—and in all his portraits there is always a forced effect, namely, that his shadows are too strong and decided for his lights. Thus in "The Pope" there is a breadth arising from a clear, unobstructed light; but such a light would not cause such strong shadows as he has given, especially just under his foot and stool. We are sure we need only refer to his "Alexander" and "Duke d'Angoulême" as examples of his very worst performances, especially to the background of the latter. Where were his mind and correct eye when he did this? He must have been more than ordinarily indolent. Much has been said of his "Miss Croker," and while we are ready to acknowledge that it is a light and elegant picture, animated in expression, we must say that it is essentially destitute of every claim to rank with Reynolds or Vandyke—that it is decidedly theatrical in effect and theatrical in style Can it stand a comparison with those female portraits by Reynolds lately exhibited at the British Institution, particularly the "Girl sketching"? We make these comparisons from no invidious feeling, from no wish to detract one or exalt the other, but to ascertain how far we can be justified in claiming for Lawrence that high reputation which many are anxious to award him.

The portraits by Lawrence of "George IV.," "The Emperors," and "Pope" and "Cardinal" were very much admired on the Continent—and no wonder; for his style essentially partakes of the frippery and glitter of the modern Italian and French schools. That of "George IV" is especially one mass of glittering tinselwork, and the flat lightness of the sky is the very perfection of mannerism and unnatural contrasts. In summing up his character as an artist, we must say that he was deficient in perception and knowledge of the principles, the philosophy of the art, and corroborate this assertion by the fact that the worthy keeper at the Royal Academy always endeavours to impress on the students the pernicious effects of studying Lawrence rather than Reynolds.

The Emperor of Russia has presented to a museum which will shortly be opened near Plevna a work of the engineer Krapivin, representing the Russian army crossing the Danube.

THE SIGNIFICANCE OF ROME TO THE AMERICAN ARCHITECTURAL STUDENT.*

TO define clearly what is meant by the significance of Rome to the American architectural student, it may be well first to go into detail to a certain extent to show just what has been accomplished up to the present time by the American student in Rome and under what conditions he studies and lives.

The existence of the French Academy in Rome has been a great object-lesson to all architects and architectural students, and for a long time the need of a rendezvous in Rome has been most seriously felt by students from America. The growing tendency in this country within the last few years towards the Classic and Renaissance forms and a growing love of the antique in all branches of art, together with a thorough appreciation of Rome in the architectural world, led to the idea of the founding of the Roman School. The present President of the Institute was the leading spirit in this undertaking, and he associated with him the representatives of the different universities who pledged a certain number of students. The school was organised in the autumn of 1894 and was composed of scholarship men and others travelling on their own resources. The object of the school as then outlined was to afford greater opportunities to the travelling student to pursue his studies in Rome and other cities of Italy by securing for him, without loss of his time, permits to visit the galleries and museums, and to study and measure the antique monuments in the city.

It is not my purpose to go into the details of the difficulties of the first year's existence of the Roman School, the weeks and months of waiting and repeated unsuccessful attempts to reach the heads of departments of the Italian Government and secure satisfactory recognition. The French School has existed for 200 years in the city of Rome, and there were also the German and Spanish schools, and certain representatives from other Governments who had the freedom of the ancient city, yet the American student was an unrecognised factor, and it was only after months of the most persistent effort that the school was finally recognised and its students allowed free access to the ancient monuments, museums and galleries.

With our work laid out and the road clear the serious work of the school commenced. It consisted in visiting these monuments, studying and measuring important details and making careful restoration to scale, at the same time studying the history of ancient architecture and in periodical visits to the galleries and museums

The more advanced work of the second year included the measuring and the restoration of plans and visits to ancient buildings, and a trip of observation and study through Sicily and to Athens.

The experience of the past few years has shown us very clearly just what it means to go to Rome with a view to an intelligent study of her great antiquities. No one can deny that a certain amount of benefit accrues to even the novice who may go there to study, but we have but to point to the example of the French School to illustrate forcibly the importance of a certain amount of thorough training before the student enters upon his important mission. We all know that no one but he who holds the grand prize enters the French Academy at Rome; whether it be in architecture, painting, sculpture, music or engraving, he must have passed through a certain rigid course of training and experience before he is allowed to launch into the world of original research and make his own way.

Thus we see men of seven, eight and ten years' experience in the different arts, under the best masters and under the most favourable conditions, seeking Rome and Greece as the ultimate and crowning step in their educational career. These men, representing the different arts, are associated in the Academy under somewhat the same influence they had experienced at home; that is, the influence of association one with the other, which encourages the interchange of ideas. In other words, the atmosphere is there created which is most conducive to the successful study of their art. Further, they are led by a master who is himself an artist, and who may be either a painter, sculptor or an architect. Thus we have the ideal situation of the student in Rome.

To learn the true lesson from Rome or Athens or any other centre of ancient art, to appreciate the greatness and the meaning of the things done in centuries past, it is absolutely necessary that the student should be thoroughly well equipped in the groundwork of his profession.

In founding the Roman School, it is not the idea to attempt to put it upon the same footing as the French Academy. It was intended merely to establish an anchorage where the student of certain attainment could have facilities for studying up to the limit of his capacity whatever Rome and Italy had to present. The policy of the school has not changed much in this regard, except to become more restrictive in its membership.

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* A paper by Mr. Austin W. Lord, read at the thirty-seventh annual convention of the American Institute of Architects.

Admitting that our men are receiving a certain amount of benefit by being sent to Rome, is it not extremely important that we should take steps by which they should realise the full importance and get the full benefit of the valuable years spent in the foreign city? In other words, we manifestly cannot be doing strict justice to a young man by rushing him off to Rome after a four years' course in a university or college, two years of which time at the most is all that he is able to give to architectural study, and of these two years practically one year only is given to serious design. As architects, we know how little these men know of architecture when we come to employ them in our offices. They are not expected to have a wide knowledge of the subject. They are in no way fit to be launched on the world to pursue their studies on original lines, for they hardly yet know the A B C of architecture. The same might be said of the sculptor and the painter, the musician and the engraver. Let each one of these men pass under the hand of the master before he starts on the road of original research, and then we shall be quite sure that there will be no backward tendency on his part once he is launched.

I desire to argue in the strongest terms possible against the idea of sending forth untrained men to Rome. There are two alternatives left to us, one of which is to utilise the foreign schools, the other is to train our men at home. As we have no advanced school of art in this country, my sympathies lie in the direction of the French School as a place of training for the young men in our profession. For reasons which have been enumerated above, and which are apparent to all, this seems to be the wiser alternative at present I think it is the hope of the profession in this country to realise the establishment of a great central school of architecture, painting and sculpture, which shall give our students sufficient training to make them thorough architects. If through superior attainments a certain number of these students win the Roman prize, so much the better. They will certainly be in a position to profit by their extended study abroad. I should be the last one to recommend any procedure based upon the idea of depending permanently upon the French School as an element in the development of our architects. Such a plan would indeed be a poor indication of belief in our artistic future and of confidence in our national ideals. But in order that we may in the future become independent of this influence it is surely most essential to profit to the greatest possible extent by the example of thoroughness, consistency and continuity in policy of which the French School is to-day the most conspicuous example When by the establishment of a central school founded upon the broadest lines we have brought the student under the influence of a course of instruction which, in addition to a corps of distinguished specialists, enlists the services of a body of our strongest practising architects, and have thereby insured a policy for the school which is influenced by correct theory on the one side and the actual practice of the profession on the other, then, and not till then, can we look forward to our emancipation from a dependence upon foreign schools. For the realisation of such a project as this the organisation already exists. The attitude of encouragement and willingness to collaborate in the initial steps of the American School at Rome already evinced by the American Institute of Architects and by the authorities of the universities, where schools of art have already been established, and the official recognition already accorded to the project by the United States Government have brought about a situation which renders comparatively easy the taking of this further step and thereby rendering complete the ultimate object of the founding of the Roman School, viz. that the men upon whom the duty is to devolve of solving the great artistic problems presented by our civilisation shall be trained by ourselves and so equipped as to enable them to go directly to the sources of our artistic inspiration without the aid of any intermediary. I feel that I cannot take a purely optimistic view of the results to be accomplished by the American student under his present status. With few exceptions, the Roman students have been poorly equipped for the kind of work they are expected to do, and the longer we delay in this preliminary preparation of our men the longer we delay any beneficial results to art or architecture in this country from that source, so that in the consideration of this subject I am taking the ideal architectural student who has a knowledge of the fundamental principles involved in the production of an architectural work. It is not enough that he should have a good idea of proportion as regards plan, elevation and detail, but he should have such a familiarity with architectural forms as will enable him to compose readily—an idea of the fitness of things, and, withal, imagination. He should have a knowledge of construction, and while it is not expected that his constructive abilities shall take him necessarily into the realm of the engineer, he must have an idea of the relative proportion of the constructive members and their composition to enable him to design with freedom. I urge that he should study Classic architecture, but not to the exclusion of every other style. However, it seems to have been quite clearly illustrated that where one particular style is studied systematically, where the theory of the proper adjustment and relation of parts is studied from a scientific standpoint, it should enable the architect to design successfully in any style. Our student should have a knowledge of the history of architecture, which should include a considerable knowledge of decoration and sculpture. During the course of his studies, his association with students in the other arts will have enabled him to form certain fixed ideals which, although his future studies may to a certain extent change them, will still give him some point of departure in the course of his advanced work.

Entering Rome he thus has an appreciative understanding of what Rome has to show. The purely mechanical part of the work he has already mastered. He is in a position to know of and to study intelligently the variety of detail and an unlimited number of practical solutions of the difficulties which constantly confront the architect in the development of designs. His attention is naturally attracted to the principles which govern, and his training should lead him into the way of studying all his subjects in the broadest way. In his more advanced studies concerning the restoration of plan and elevation, his imagination may be allowed free play, as the ultimate object of restoration is not necessarily to reproduce the exact monument, but to develop a logical superstructure from the plan and fragments that exist The restoration of monuments is not wholly for the purpose of obtaining exact data of certain interesting architectural motives and details. While this side of it is useful to a certain extent, the great benefit derived is in searching out the solution of problems from the standpoint of the ancient architect who was not trammelled by any school and who solved many great and original problems in the simplest way, and without many precedents to guide him he resorted to a logical system of development; further, the limited number of types of buildings required at that time enabled him by a constant repetition to secure the most perfect results possible. Thus through the medium of restoration work the student is brought in closer relation with the ideas of the early artists, and interest in his work is enhanced by the feeling that he is put in position to discover new and better methods of solving varied problems in architecture.

Still further value has accrued to architectural students through the work of the archæological schools in foreign countries, notably the work of American, German and French schools in Greece and that of the Italian Government in Rome and other cities of Italy. It has undoubtedly generated a taste for the antique which is so marked a feature of the prevalent taste throughout all civilised countries.

What is true of architecture in this respect is also true of the sister arts of painting and sculpture. The student of architecture in Rome cannot shut his eyes to the influence of the ancient productions, for there will be impressed upon him in the most forcible way the intimate relation and association of the three arts, and he will realise how barren would have been the results achieved by modern artists without the great examples which have been restored to us from the work of the ancients. While the ancient examples in fresco in our day are, of course, rare, the art of the Renaissance profited by the then existing examples, and through them the student is put in close touch not only with the ancient work, but with the splendid development of the fifteenth century. Here, again, we see the advantage of the association of students in the various arts. The student of architecture cannot well make a complete restoration without thought of the painted decoration that was so necessary to its success, nor without the sculptural adjunct which was even more prominent during the best Greek and Roman periods, as well as during the Renaissance. In this way we see produced at the hands of the architectural student in Rome a delineation of baths, for example, which gives us, if not a perfectly accurate reproduction of the original, certainly a logical reproduction, including everything necessary to the successful operation of the system, from the heating plant in the substructure to the last detail of the crowning features. This includes, first of all, a very carefully studied plan, showing a proper relation between all the various functions. It shows methods of construction throughout, methods of decoration in brick, terra-cotta, marble, stucco and fresco. In other words, it is a veritable project, developed, of course, under different conditions than existed in the school, yet under conditions which appeal vastly more to the imagination of the well-equipped student, and under conditions which have a more practical as well as æsthetic side.

This kind of study would seem to be the nearest approach possible to the work of designing for actual construction, and naturally brings the student more into the attitude of a practising architect, which is after all the ultimate end of foreign study.

I have already alluded to the great systems of baths which offer such a wide field for the work of restoration to students abroad. Let us look for a moment at the remarkable array of palaces with all their elaborate and complete accessories in the way of furniture and decoration, gardens and approaches, a study of which has given the world a comprehensive idea of the domestic life of the ancients; their temples and tombs, the study of which has given us an idea of their religious practises; their forms, which in one chapter almost cover the political history of a nation, together with the Colosseum, the theatre and the hippodrome, which through the aid of the archæologist practically complete the history of the life and manners of these ancient peoples. As a portion of the work of the Roman School lies in Greece, it is interesting to recall to mind the influence of Greek art in Rome, for, as Laloux says, it was there that the Greek artists were found again. They there received and modified for the needs of their conquerors the traditions which had made the grandeur of their country, but before calling to herself these artists Rome had already enriched herself from the spoils of vanquished Greece; Marcellus, Mummius, Scaurus had pillaged Syracuse, Corinth and other cities; Sylla had sent to Rome a certain number of columns from the Temple of Zeus at Athens to decorate the Temple of Jupiter Capitoline; he further says that "with Nero, the most beautiful works of Greek art passed into Italy; the oldest sanctuaries, Olympia, Athens and Epidaurus were pillaged; the ancient consecrated places, despoiled, furnished from these alone five hundred bronze statues which came to ornament the forums, the circuses and the imperial palaces." The recognition by the Roman of the supremacy of Greece in the arts is so well known as to render further illustration unnecessary, but a fact not so generally appreciated is the analogy of the forms and the disposition of similar edifices of the two peoples. This similarity is most marked in temples, forums and theatres of the Romans which are similar to the temples, agoras and theatres of the Greeks; to the gymnasium corresponds the baths; to the hippodrome the circus.

I have mentioned above the evidences apparent on every side in Rome of the close study devoted to the ancient monuments by the great men of the Italian Renaissance, such as Scamozzi, Bramante, Palladio, Vignola, in architecture, Michel Angelo in all three of the arts, Raphael in his decorations and paintings, and the later men in their respective works all bear testimony to this. This may be regarded as natural and almost inevitable, but if we turn to France and England, examine the early studies of such men as Pierre Lescot, Jean Goujon, Le Notre, Wren and others, leaders of their respective periods, we still find remarkable evidence of exhaustive study and appreciative comprehension of the ancient work. In view of the recognition of the supremacy of the Greeks in the arts, the unequal perfection attained by them in their architectural forms, the question may well be asked, Why is Rome the ideal location for such a school? A complete discussion of this point would naturally be voluminous, but it may, I think, be briefly summarised thus:—In Greece we find very perfectly studied developments of a very limited number of types, while in the Roman work, although the standards of perfection never reached the same height as in Greece a vast number of new architectural types appeared contemporaneously; types which are more readily applicable to modern requirements, and it is therefore the architecture of Rome rather than of Greece that must be regarded as the foundation and inspiration of the modern world.

Before leaving the consideration of Rome as a place of study for the American architectural student of to-day, it seems appropriate to dwell for a moment on the tendencies of modern architectural study as exemplified in the leading schools of the world, in order to determine wherein the instruction of the schools is insufficient and in what directions it should be supplemented from other sources.

The great variety and wide divergence in the problem submitted to the modern architect for solution, both in the schools and in practice, is constantly tending towards the elaboration of what may be termed the technical or scientific side of his development as compared with the purely artistic side In other words, the architectural profession to-day is engaged in the development of certain types of architecture to meet, in many cases, an entirely new set of requirements and conditions, and hence the encouragement of the faculties of logical reasoning and resourceful ingenuity attain undue prominence as compared with that of the purely æsthetic sense. It should not be understood that this tendency is to be regarded as an unhealthy one That the architecture of any period must be truly useful and appropriate in order to be truly beautiful is axiomatic; but, if architecture as a fine art is to maintain in the future its supremacy over architecture as a profession, it is manifestly essential that at some time during the course of his professional preparation the architectural student must place himself in an environment where the modern conception of buildings as a logical expression of utilitarian requirements may be temporarily forgotten and where he may come into intimate touch with the pictorial and sentimental side of his art, and draw his inspiration from the same archæological sources that have inspired the leaders of successive architectural periods for hundreds of years.

The student who has undergone an adequate preparation for such a course of study as opens before him upon his arrival in Rome is presumably thoroughly familiar, so far as books, drawings, restorations and photographs can make him so, with all the important monuments of the ancient city. This being the case, the question arises, Why prolong his stay there further than is necessary to enable him carefully to inspect all those things whose general proportions and aspect his studies have already made familiar to him, and to render permanent the mental impressions received from them? Upon the answer to this question depends, I think, the determination as to whether the founders of the American School at Rome have done a wise thing or an unnecessary one. The formation of permanent tastes in art and the determination and separation of the essential and the non-essential qualities present in any work which has strongly appealed to us are necessarily slow developments. All of us have experienced the surprise on returning to a city, or a picture-gallery, or an opera after a long interval, of finding our admiration strongly aroused by a building or a picture or a melody that has previously made no impression upon us. Brief impressions, though frequently the most vivid in their appeal to the imagination, are seldom just in their discrimination and are usually subject to revision when familiarity has given an opportunity for more analytical comparison.

The student who enters Rome with a thorough knowledge of Classic forms and details, and of the forms and details which have been the gradual outgrowth and development of them throughout the last twenty centuries, enters upon a period of careful analysis and comparison. He has before him in the Forum, in the Baths, in the Colosseum and the Pantheon, in the temples and the tombs and the arches, the elementary fundamental forms from which, as a starting-point, his entire architectural education has progressed. These things are presented to his study in all the austerity and simplicity which comes from the complete elimination of trivial details or utilitarian accessories, and in many cases from a state of partial destruction and entire absence of detail.

In juxtaposition to these, he has examples in bewildering array of the developments of these primitive forms, of the radical departures from them and reversions to them which form the architectural history of Italy, and, with the knowledge previously gained of the architecture of France, England, Spain and Germany, he is in a position to trace every step in the evolution of modern architecture.

With such a preparation this is the opportunity most necessary for the American architect of the future. In order to utilise the instruction of the schools for the betterment of the architecture of his country and his period, he must learn to distinguish between the essential qualities that give to Classic architecture its simplicity, its grandeur of scale, its repose and its refinement, and the non-essential details, which may be varied without the sacrifice of these qualities. In the varying degrees of decay that mark the ruins of ancient Rome, he learns to what a slight extent these monuments depend for their majesty upon the particular details he has been taught to regard as their most distinguishing characteristics. He realises, as never before, that what we call scale, the adequate expression of the bigness of things, is a quality inherent in the proper proportioning of masses, and has an existence entirely independent of the details and accessories which are too frequently employed in modern buildings to supply by means of their size and position the lack of the quality itself.

Our student has for years been confronted in the schools with problems involving a great multiplicity of requirements. He has been taught to strive for the kind of simplicity that results from the orderly arrangement of complicated parts. Upon his return to America and his entry upon the practice of his profession, the complications will obtrude themselves with still greater insistency. Now for the first time, and perhaps the last, he is in touch with that kind of simplicity in architecture which consists in the entire absence of complicated parts. He has reverted to an architecture of first principles. In the light of this architecture he is to form anew his estimate of all subsequent periods and styles. At last he has before him a standard by which he can decide for himself, with authority, what are the healthy logical developments necessary and proper for the application of Classic forms to modern requirements, and which of all the changes that have been wrought in the Classic forms and of all the new *motifs* that have been grafted upon them are worthy of preservation and further development.

Of all the benefits that Rome has to confer upon the student this, it seems to me, is the chief. This is not to be gained in a few weeks or even months The rapidity with which it is to be gained depends upon the adequacy of his previous preparation, but, under the most favourable conditions, two years is barely sufficient, and this extra time, added to the term of preparation for architectural practice, puts the student in a position to make his own enduring personal contribution to the architectural progress of his period, and, if properly utilised, frees him from the necessity of making choice between a rigid adherence to archaic forms on the one hand, and on the other a weak dependence upon the conclusions of other minds in adapting his work to modern requirements. Short as is the architectural history of this country, we have, nevertheless, already seen two or three distinct periods of departure from Classic precedents, and, if the present reversion to those types is to become the beginning of a permanent and orderly march of progress, it will be by means of the educational influence of a body of men who have supplemented their study in the modern schools by such a course as this, and who are thereby fitted to distinguish between the kind of originality possible within the bounds of a well-ordered and imaginative adherence to fundamental precedents and the miscalled originality that seeks distinction in the neglect and outrage of well-established laws.

PROTECTION OF SHORE AT BRIGHTON.

THE works committee of the Brighton Town Council have considered the report of Mr F. J. C. May, the borough surveyor, on the damage done to the sea defences during the great gale of September 10 and 11 last, and recommending the adoption of the plan he submitted to them on November 3, 1899, suggesting that, as undoubtedly the most vulnerable point remaining on the Brighton foreshore was opposite the western portion of the Kemp Town slopes, it should be permanently protected by the construction of two groynes and a wall between them, which would cost about 13,500*l*. The alternative and cheaper plan for the construction of a concrete groyne opposite Lewes Crescent, and a length of 200 feet of concrete wall immediately east of it, part of which was adopted, and which would cost about 3,500*l* to complete, must be regarded as a temporary measure only, and he could not recommend it. Such a course would be merely postponing the evil day, as the other work was absolutely necessary for the protection of this section of the beach. He therefore trusts the committee will decide to adopt his suggestion to build a new concrete groyne east of Lewes Crescent groyne, and to connect the two by a concrete wall.

Since this report was first submitted the committee have also taken the advice of Mr. Philip Causton Lockwood, M.I.C.E., who has reported that in his opinion such structures as those proposed are not necessary for the protection of the shore, and that they would do harm rather than good. He says :—"Such sea-walling and groyning as that now suggested is not only obstructive but costly. Mr. May estimates the cost of the work proposed to be done immediately at 13,500*l*., and he goes on to say that it will be necessary at a future time to build 550 yards more walling, the cost of which is not stated, but if reckoned at the rate given for the 200 feet of walling mentioned in his report of June 22, 1900, to which he refers in his report dated October 16, 1903, it would be 28,875*l*, making with the 13,500*l*. a total of 42,375*l*" Mr Lockwood goes on to point out that the important question is how to obtain a sufficient supply of shingle or other filling material. This section of the beach between Paston Place and Black Rock is the last on the Brighton front to be filled in the eastward travel of the shingle. All other places westward are stopping it—Hove, Shoreham, Littlehampton, Bognor, Portland, &c. Brighton itself also removes a considerable quantity, an average of 8,000 loads being carted from Brighton beach annually for use in the town. Over 27,000 loads were taken in the year 1901, much of it to be used in foundations for the tramways. This use of shingle was, perhaps, difficult to avoid, but it was thus prevented from going on to Black Rock, and to protect the road in front of Kemp Town slopes other material should be supplied and tipped east of Lewes Crescent groyne below the breastwork. Nearly 90,000*l*., he says, has been spent during the last eight years in groynes and sea defences for Brighton, and the works which have been executed are sufficient to retain a very much larger amount of beach than there is at present. It appears to him that it would now be well to cease this kind of expenditure, and to devote, say, 5,000*l*. to discovering new sources of supply and obtaining by water or by land shingle from other places, quarry refuse, hard-burned clay or other material to form a foundation for the reduced amount of shingle which still comes by the natural action of the wind and sea. As to the removal of sand and shingle from the beach generally, he would recommend that it should, if possible, be discontinued. In conclusion he declares that they do not need more groynes, but more material to fill the groynes they have.

Commenting upon Mr Lockwood's report, Mr. May suggests that the chief cause of the divergence of opinion between Mr. Lockwood and himself is that they do not consider the question from the same standpoint. Mr Lockwood apparently did not regard the formation of a good wide road from Paston Place groyne to Black Rock as of any immediate importance ; while he, on the other hand, believed that the extension of such a favourite drive as the Madeira Road to the end of the Sea Front would be much appreciated, and would become an additional attraction to Brighton, and that it should be completed without delay. He maintains that the proposed works will not do harm rather than good, and says they will have the same good effect at this point as the wall and groynes which he designed and constructed between the West Pier and the western boundary have had. He agrees that the town may be congratulated upon the small amount of damage done to the Sea Front, but claims that it is very largely due to the defence works that have been constructed during the past fourteen years—since Mr. Lockwood retired from active work. Brighton, in his opinion, cannot afford to wait for the platform of shingle to come in a natural way on which to form the road, as the road is wanted for the use and pleasure of the present generation. Mr. May sums up by saying that Mr. Lockwood's policy is "to wait" and let nature do the work for some future generation, whereas his (Mr. May's) policy is one of "action," so he proposes to expedite the work of nature and provide a roadway for the use and pleasure of the present generation. He is of opinion that this road is now greatly needed, as it will be an extension of the Madeira Road—a road rapidly increasing in public favour as a ride and drive.

The committee report that they have very carefully considered these reports and the state of the beach and foreshore, and have instructed the surveyor to discontinue the cartage of sand and shingle from the beach for all purposes, and intend, when such material is required for public works, that the same shall be purchased. They have also caused the necessary minor repairs, referred to in Mr. May's report of October 16, to be carried out, and they propose to defer the consideration of the suggested construction of additional groynes and a sea wall at the east end of the borough until it has been seen what will be the effect of the non-removal of sand and shingle from the beach.

PROFESSOR DONALDSON'S MAXIMS.

(*Continued from last week.*)

Of Edifices and their Parts.

XLII.

"BUILDINGS should have the four following qualities: health, solidity, convenience, delight"—*Milizia.* Convenience and the appearance of convenience are the result of design ; strength and economy the end of construction.

XLIII.

The elevation is to a building what the countenance is to the mind, and either prepossesses in its favour or prejudices with dislike.

XLIV.

There are two principles of composition for elevations—the horizontal and the vertical ; one of these must predominate. In the Classic buildings of antiquity the former prevailed. The latter arose in the decline of Roman architecture, is triumphant in the edifices of Mediæval art, and reigns throughout with the upshooting tendency in the buildings of the Eastern world, as in the minarets of the Mahommedan and the pagoda of the Chinese.

XLV.

"Art is but nature better understood ;" for from the forms of nature we deduce our ideas of the beautiful. Nature is consistent in usefulness and beauty : hence we find in art that the slightest proportions and most graceful forms, executed in hard and enduring materials, are quite compatible with durability and strength. Solidity does not necessarily and exclusively consist in ponderousness of bulk The steam-engine at first was a clumsy, heavy, complex machine ; it is now more simple, more efficient, less bulky and more graceful.

XLVI.

A building may be embellished in three manners—by the richness of the material, by the richness of the workmanship, or by a combination of the two.

XLVII.

Each edifice, having its peculiar appropriation, demands that the impress of its distinctive character should be visible in its aspect. The imposing and solemn temple, the splendid and commanding royal palace, the embellished residence of the noble, the gloomy prison, the cheerful theatre, should immediately announce their purpose and destination. If not, where is expression in architecture ?

XLVIII.

"Venustatem persequitur visus," says Vitruvius. Therefore to decorate an object is for the purpose of developing sources of sensations and impressions, in addition to those produced by the simple object itself.

XLIX.

How fine and striking is the description of a private residence given by Wotton at the commencement of his second part:—"Every man's proper mansion-house and home is the theatre of his hospitality, the seat of selfe-fruition, the comfortablest part of his own life, the noblest of his sonne's inheritance, a kind of private princedome. Nay, to the possessor thereof, an epitomie of the whole world."

L.

All voids and solids should be on their respective axes throughout: in plan for beauty—in elevation for strength.

LI.

Three principles must be observed in the adoption of any object or member or detail in architecture—appropriateness, proportion, form. Appropriateness comprehends the two requirements of Vitruvius, "quod significandum, quod significat."—B. i. c. l. (The significance and heart of things as well as things themselves.)

LII.

Construction should be the origin of decoration and ornament, but in its turn should be subservient to them, as in the flying buttresses of our Gothic edifices.

LIII.

True beauty cannot be apart from convenience. The most beautiful will be the most convenient, but the converse proposition is not a corollary thereto.

LIV.

The circular form contains beauty, convenience and strength. By its graceful line it pleases the eye; it affords great facility of arrangement in plan, and by the concentric disposition of its cuneiform masses or blocks it enables the architect to overcome difficulties of construction otherwise insurmountable.

LV.

Staircases require to be near the entrance, ready of access, easy of ascent, rarely circular, and to be well-lighted.

LVI.

"Each edifice has its own point of view, dependent on its form, size and decoration."—*Milizia.*

LVII.

Symmetry should reign in every architectural production, for Blondel (I. v. c. xv.) insists that "toute la beauté d'un bâtiment s'évanouit au moment que l'on change quelque chose d'essentiel à la symmétrie." (All the beauty of a building vanishes as soon as there is a change of something which was essential to its symmetry.) Still, without variety none can please. "Senza varietà tutto languisce" (without variety the whole languishes), observes Milizia.

LVIII.

Where eurythmy is absent confusion reigns, and it is only the ignorant who will consider a work fine because it is intricate and appears difficult.

LIX.

There may be as much purity in picturesqueness as in forms or parts the most conventional; consequently picturesqueness is no excuse for crude forms or barbarous parts.

LX.

There must be harmony in contrasts, and contrasts in harmony; a balance of opposites to produce effect. "Contraria juxta se posita magis illucescunt" is an old rule, observes Wotton. For, as D'Aubigné says, "Unity in diversity and diversity in unity is the law of nature." (Contraries become more effective when placed together.)

LXI.

"To be rich without profusion, simple without barrenness, is the great aim of an architect," said the celebrated Percier to me in 1822.

LXII.

Nevertheless Blondel is most correct where, in the sixteenth chapter of his Fifth Book, he says:—"La beauté de la matière et la délicatesse de l'exécution servent infiniment à relever l'excellence de celle que les proportions font naître dans les édifices." (Beauty of material and delicacy of workmanship serve to a great extent in raising the excellence which proportion imparts.)

LXIII.

The eye of the ignorant or vulgar cannot appreciate many of the nice "nuances" essential to beauty. Woods, with his usual penetration, observes that "It is quite a mistake to suppose that a variation of form, not immediately perceptible to the eye, must therefore be useless. Every artist has felt that these slight changes influence the charm of the composition without being themselves obvious even to a skilful observer."*—Vol. i. p. 337.

LXIV.

If a difference of size in parts or details exist in a building and be not discoverable unless one takes a compass, a rule, a square, or a level, they are no longer defects. Buildings are not made for measurement, but delight. When these discrepancies escape the eye, and minute examination can alone detect the irregularity, the beauty of the whole does not cease to affect us. In the Pantheon the angular columns are anti-Vitruvian, being smaller instead of larger than the others. At the top of the pediment there is a double modillion, and on one side of the sloping cornice twenty-four modillions, on the other twenty-two. "Bravo," says Milizia, "to him who has counted them; but 'più bravo' to him who turns up his nose at such microscopic criticism."

LXV.

There is no part of a building which has not the power of adding considerably by appropriate treatment to the effect of the edifice. Witness even the chimneys of the Tudor or Elizabethan houses, and the lofty shafts which rise above the roofs of the Tuileries, and of the other palaces of the Renaissance and the châteaux of France, as given by Du Cerceau, Marot, Baltard and others.

LXVI.

There is as much of reason in the introduction of light and shade and colour as in the distribution of the masses. In fact, as Woods remarks (vol. i. p 432), "colouring and composition mutually enhance each other."

LXVII.

A subdued light becomes a church; "devotion," as Wotton suggests, "more requiring collected than diffused spirits."

LXVIII.

The more light there is thrown on an object, and the lighter its colour, the nearer it appears; but objects obscurely lighted appear more distant than they are in reality, and the larger in proportion to the weakness and obscurity of their colour.—*Milizia.*

LXIX.

The more distinct the parts of an object, the nearer it seems to be; and the more confused the parts, the more distant it appears.

LXX.

Are not size and colour relative and not positive qualities, and contrast the only scale of either?*

LXXI.

In fact, can any effect be produced without contrasts? But all contrasts must have relation to each other to produce a just effect, and a *tertium quid* to prevent rude and harsh juxtaposition of contraries; a middle term, as it were, to complete the architectural syllogism.

LXXII.

The youthful period of any new style of art has certain impulses, but no fixed laws. Mature age alone brings experience, and experience alone is capable of establishing fundamental principles and a legislative code.

LXXIII.

"There are three leading points in every fine building—its execution, its magnificence, its conception. The glory of the first is due to the builder; of the second, to the owner; of the third, to the architect."—*Blondel.*

(*To be continued.*)

TESSERÆ.

Early Italian Painting.

THE Mediæval Italian mind in its first art efforts was wholly guided by religion; it became, in fact, a confession of faith. We read in its art the simplicity, sincerity, truth and earnestness of devout souls. To them, those quaint figures with their solemn expression, with all their faults of perspective and imperfect anatomy, clad in garments of exceeding richness of colour, yet of simple fashion, reposing stiffly in their atmosphere of gold, were as angel voices of hope and warning. Guido of Siena, Simon Memmi, Cimabue, Giotto and Orcagna were not artists only, but prophets, who foretold the joy of heaven and woe of hell. Each was a Dante in painting. Such as they believed they expressed in a manner so serious that no modern eye, not dimmed by unbelief in all spirituality, can look emotionless upon their revelations of the bright robes and hallelujahs of the faithful and the terrible torments of the damned—they carried their hearts into their art. For three centuries artists laboured in this spirit, and mankind rejoiced in their work. The Early German school was equally serious and sincere; harder in outline, with like simplicity, but more variety and richness in detail and greater vigour of touch. Albert Dürer was its greatest seer. Both Italians and Germans studied and prayed to know how they might best give glimpses of the spiritual world. It was reserved for Fra Angelico, of Fiesole, to invest art with its perfect robe of spirituality, elevating it at once into the peace, purity and glory of the celestial Paradise. Between the new schools of Italy and Byzantine art there was this great distinction—the latter simply copied old types; the former, even in employing them, gave to them a new arrangement, and not content with reviving life in their dry bones, the artist gave play to his own ideas. The Byzantine style did not, however, yield its supremacy without a struggle, involving a transition of period, as is discernible in the mosaics of St. Miniato al Monte, near Florence, which, although of this period, are almost wholly of that school, while those of the cathedrals at Pisa and the former city manifest the freer conceptions and more dignified expressions of the dawning art. Duccio, in his large picture of the entrance of Christ into Jerusalem, done between 1308 and 1311 for the cathedral of Siena, strikingly displays the departure from the previous incapacity by his skill in grouping, the fine expression of his heads and the dramatic action of his figures, imbued with religious feeling and in keeping with his subject.

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* As in the entasis and convexities of Greek architecture.

* The ancients treated this point in a most masterly manner. Most of their temples were enclosed in courts. The Trajan Column was placed in a confined area. They would not have placed a colossal statue on a lofty arch, at a distance from every object that might give scale by which to judge of its position and relative size.

Perpendicular Windows.

Windows afford the most striking character of this style, and the eye at once distinguishes it from any other by observing that the mullions are continued through the head of the window, and that perpendicular lines prevail throughout all the tracery. The windows in the early and better part of this style are large and lofty, divided by horizontal transoms into two or three parts. The windows of William of Wykeham have a peculiarly elegant character distinct from any others, being generally very lofty in proportion to their breadth, with a well-proportioned arch. They belong to the earliest period of Perpendicular work. The windows of this style soon became more broad, less lofty and the arch more and more depressed until the style became quite debased and the square-headed window prevailed almost universally. The four-centred arch is generally characteristic of this style, and in the latter period of it almost universal but not invariable, as amongst the ornamental parts of niches, &c., arches of almost every form may be found; an ogee arch is not unfrequently used in late Perpendicular work, but principally for the heads of small doorways, &c. The doorways of this style have usually a square head over the arch and the spandrel generally filled with some ornament in the interiors; an ogee canopy is sometimes used instead of the square head, or the panelling, which forms one of the most striking marks of this style, is continued quite to the arch. The whole surface of the walls both within and without is sometimes covered with panelling, which produces a rich and exuberant but somewhat frittered and tawdry effect. Domical roofs to the turrets are also characteristic of this style, as at King's College Chapel. Another ornament peculiar to this style is the figure of an angel with expanded wings supporting a shield, or as a corbel or a row of them in a cornice; the rose and portcullis of Henry VII. also very frequently occur; the ornament called the Tudor flower resembling an oak or strawberry leaf is also frequently found as a finish to the cornice of rich screenwork, or over niches, &c, as in St. Mary's, Oxford.

Mediæval Towers.

There are two obvious reasons why there should be so many more Perpendicular towers than Decorated or Early English. One is that the Perpendicular style, having been both the latest and the longest in duration, has left more remains now surviving than any other. The other is, that in the three styles between the Norman and the Perpendicular it was not the fashion to build towers without spires; and, therefore, notwithstanding their greater antiquity and chances of decay, there are probably more Norman towers still remaining than of all of the three other styles before the Perpendicular. The great tower of Lincoln once had a wood and lead spire upon it very nearly as high as Salisbury, and the two western towers had their spires taken down because they were unsafe so lately as the eighteenth century. In like manner the Hereford tower was clearly built for a spire, and probably many others which are now reduced to a flat roof; for many of the early spires were only of wood and lead, spires having been in their origin merely an elevated roof, and made of the usual materials for roofing. If some accident had deprived Salisbury, Grantham and Newark of their spires, they would have had to be reckoned among the towers of the Geometrical style, and Norwich would, in the same circumstances, have subsided into a Norman tower. And if the great western tower at Ely (the only cathedral which has its great tower at the west) were relieved from the late octagonal top which has no business there, it would stand as the finest example of an Early English tower without a spire, with four very grand turrets at the corners, which are now overwhelmed and obscured by the lantern.

Correspondence

The London Master Builders' Association.

SIR,—I am instructed to ask if you will kindly give prominence in your valuable paper to the following statement:—

"Mr. James Carmichael, builder and contractor, of Trinity Road, Wandsworth Common, has asked us to state that the Mr. Carmichael who was fined 2*l*. last week at the Westminster Police Court for travelling without a railway ticket is not, and never has been, in any way whatever connected with his firm."

I may say that Mr. James Carmichael, Trinity Road, Wandsworth Common, occupies a deservedly high position in the building trade of the Metropolis, and is senior Vice-President of this Association, and I hope you will agree with me that it is very essential the public should not be allowed to associate him with the person who was fined for travelling without a railway ticket. If you will be kind enough to accede to my request you will confer a great obligation upon the London Master Builders' Association—I am, dear sir, yours faithfully,

THOMAS COSTIGAN, Secretary.

31 and 32 Bedford Street, Strand, W.C.:
January 5, 1904.

GENERAL.

Mr. George Clausen, A.R.A., who was recently appointed Professor of Painting in the Royal Academy, will deliver his first lecture on Monday at 4 P.M. His subject will be, "Some Early Painters." The other lectures of the course will treat of "Titian, Rembrandt and Velasquez," "Lighting and Arrangement," "Colour," "Open-Air Painting and Landscape," and "Realism and Impressionism."

The Executive Committee of the Liverpool Cathedral have appointed a sub committee to make arrangements for the ceremony of laying the foundation-stone, which will probably take place in May or June next. The ceremony is to be performed by the King

M. Saint-Marceaux, the sculptor, has decided to produce the statue of the younger Dumas and the symbolic figures on the site assigned in the Place Malesherbes, Paris, instead of in his studio.

Mr. H. Douglas Horsfall has given 5,000*l* for the purpose of erecting a reredos in the new Liverpool Cathedral.

The Home Secretary has issued the regulations for the manufacture of electric accumulators made in pursuance of section 79 of the Factory and Workshop Act, 1901, and which will be applicable to all works on and after January 1, 1904, in substitution for the special rules established under the Factory Act of 1891.

Mr. Frederick G. Chinnock has published his award arising out of the claim by Mr. Leopold de Rothschild for 58,000*l*. compensation from the Metropolitan District Railway Company in respect of property taken (and consequential damage) at Gunnersbury. The area acquired was 1,114,390 superficial feet. The valuations on behalf of the claimant ranged from 52,111*l*. to 56,835*l*, and those for the railway company from 23,865*l*. to 28,200*l*. The amount of the award is 41,036*l*.

The Bishop of Exeter will preach at St. Antholin's, Peckham Rye, on the 31st inst, on behalf of the fund for building the new King's College Hospital on a site in Camberwell presented by Mr. W. F. D. Smith, M.P., at a cost of 50,000*l*.

A Publication is likely to be brought out shortly in Germany which is intended for all who take an interest in Eastern exploration The title will be "Anatole" = the East, and it will be conducted by Waldemar Belck and Ernst Lohmann.

M. Demierre, architect, principal inspector of the works of reconstruction at the Sorbonne, Paris, has been admitted to the Legion of Honour.

The Hildesheim (Hanover) Town Council has decided to carry out the ancient appearance of the town by ordering that in future all private buildings must be designed in the seventeenth-century German style.

The Bolton Town Council have agreed to the improvement of Bradshawgate, for which borrowing powers to the extent of 12,[illegible]0*l* are granted.

The London County Council have expended 185,332*l*. in the promotion of Bills in Parliament between 1889 and 1902, besided 78,503*l* in opposing Bills.

The Berlin Opera House has been closed by order of the Emperor in order that several measures to insure safety can be carried out.

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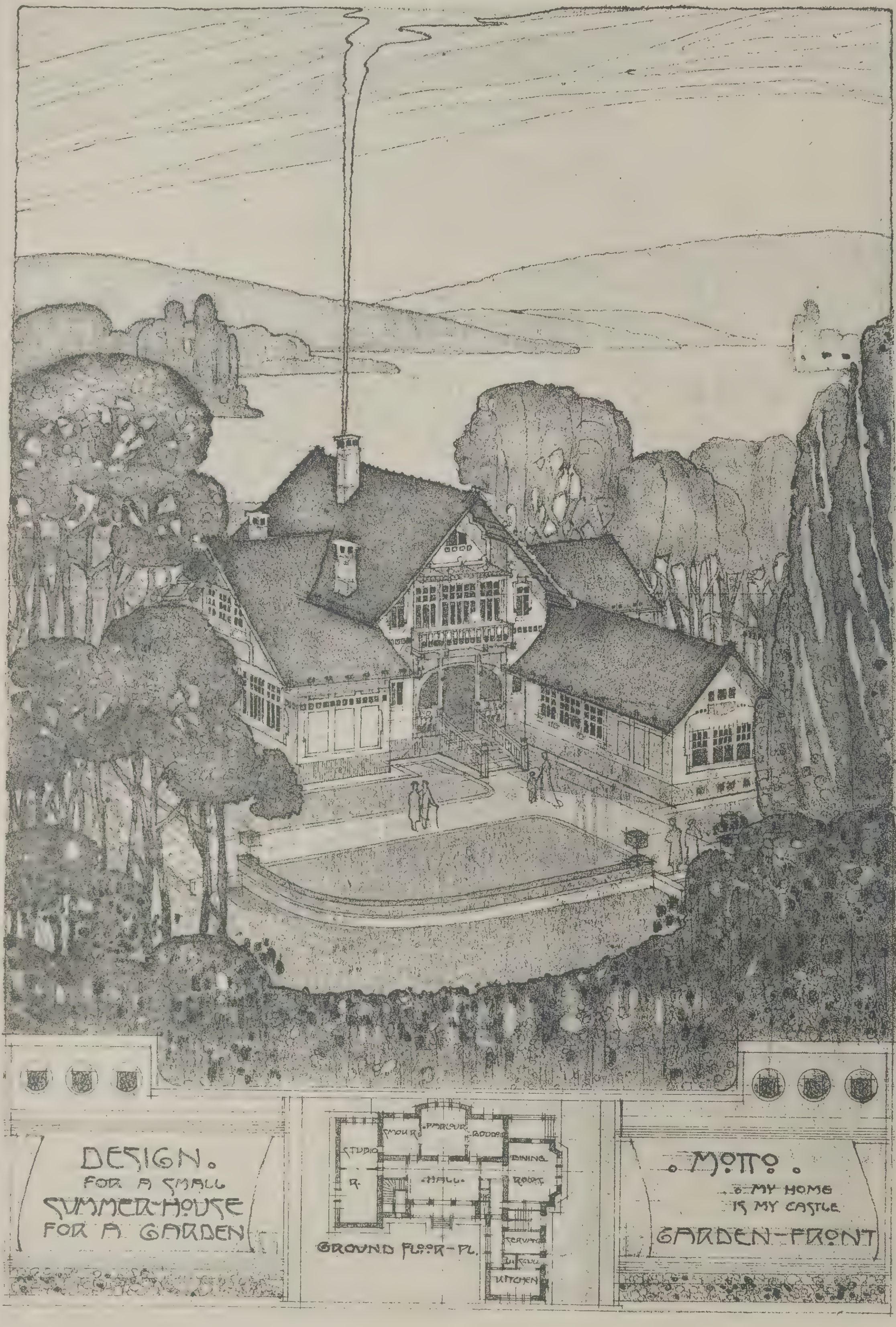

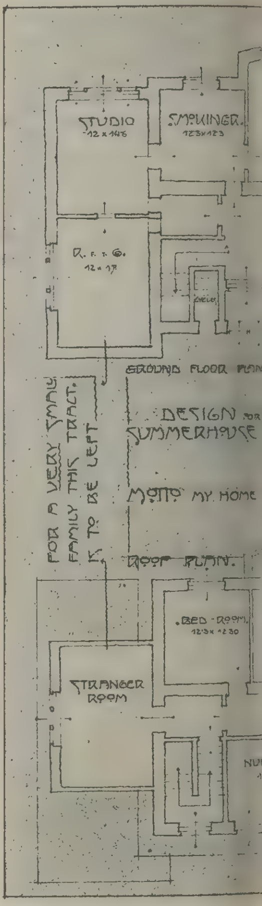

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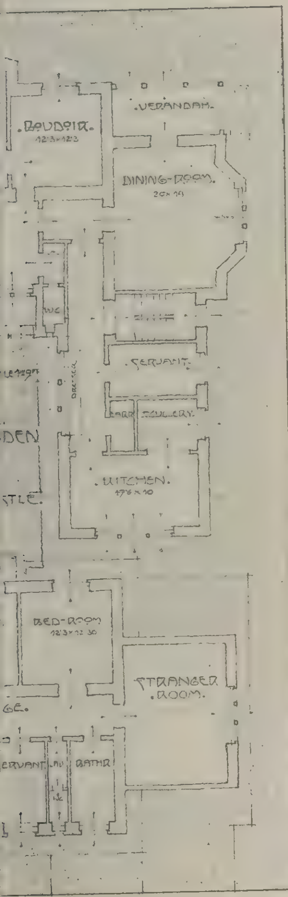

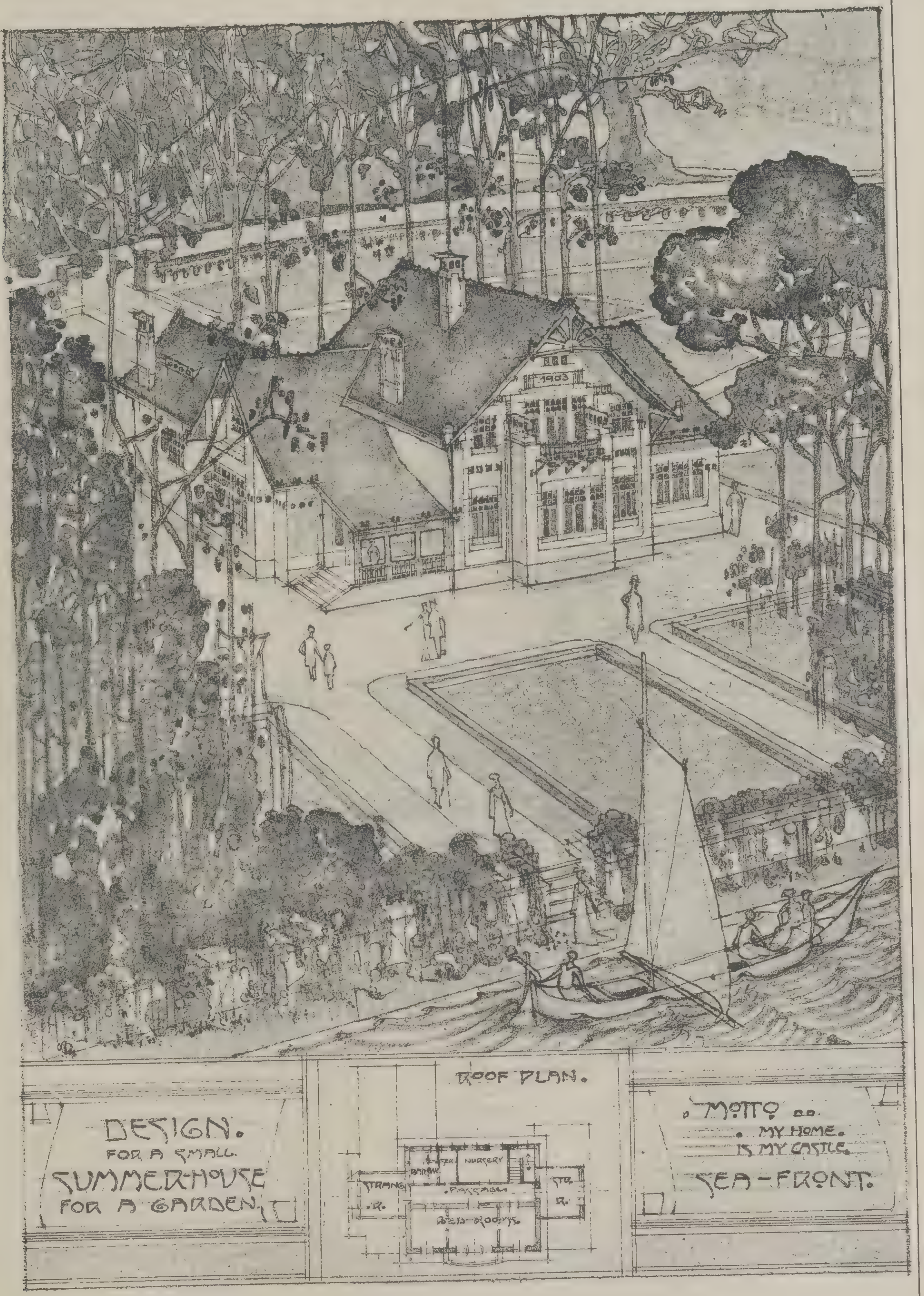
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DESIGN.
FOR A SMALL
SUMMER-HOUSE
FOR A GARDEN.
ROOF PLAN.
NURSERY
BATHR.
PASSAGE
STRANG. R.
STR. R.
BED-ROOMS.
MOTTO
MY HOME.
IS MY CASTLE.
SEA-FRONT.

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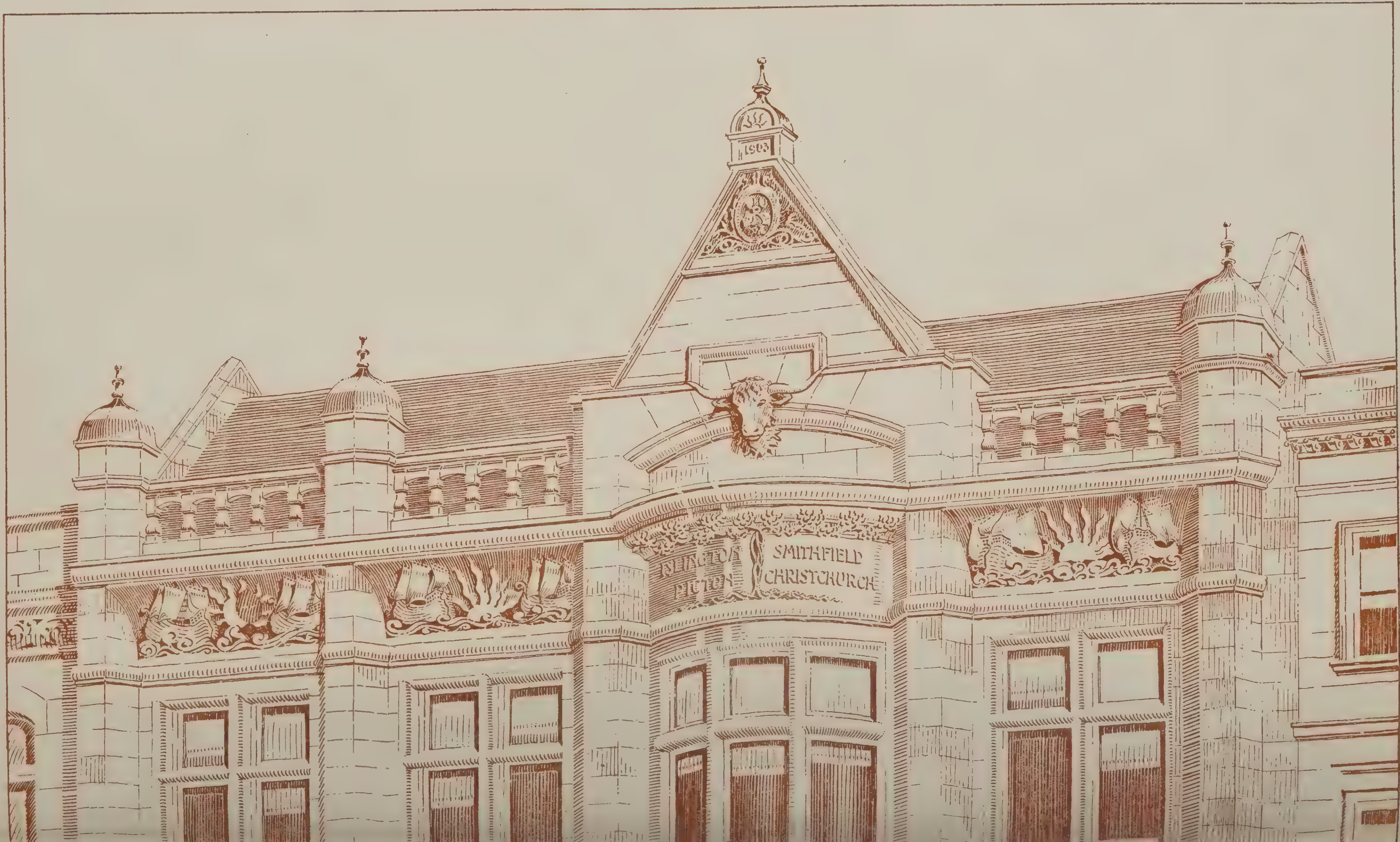
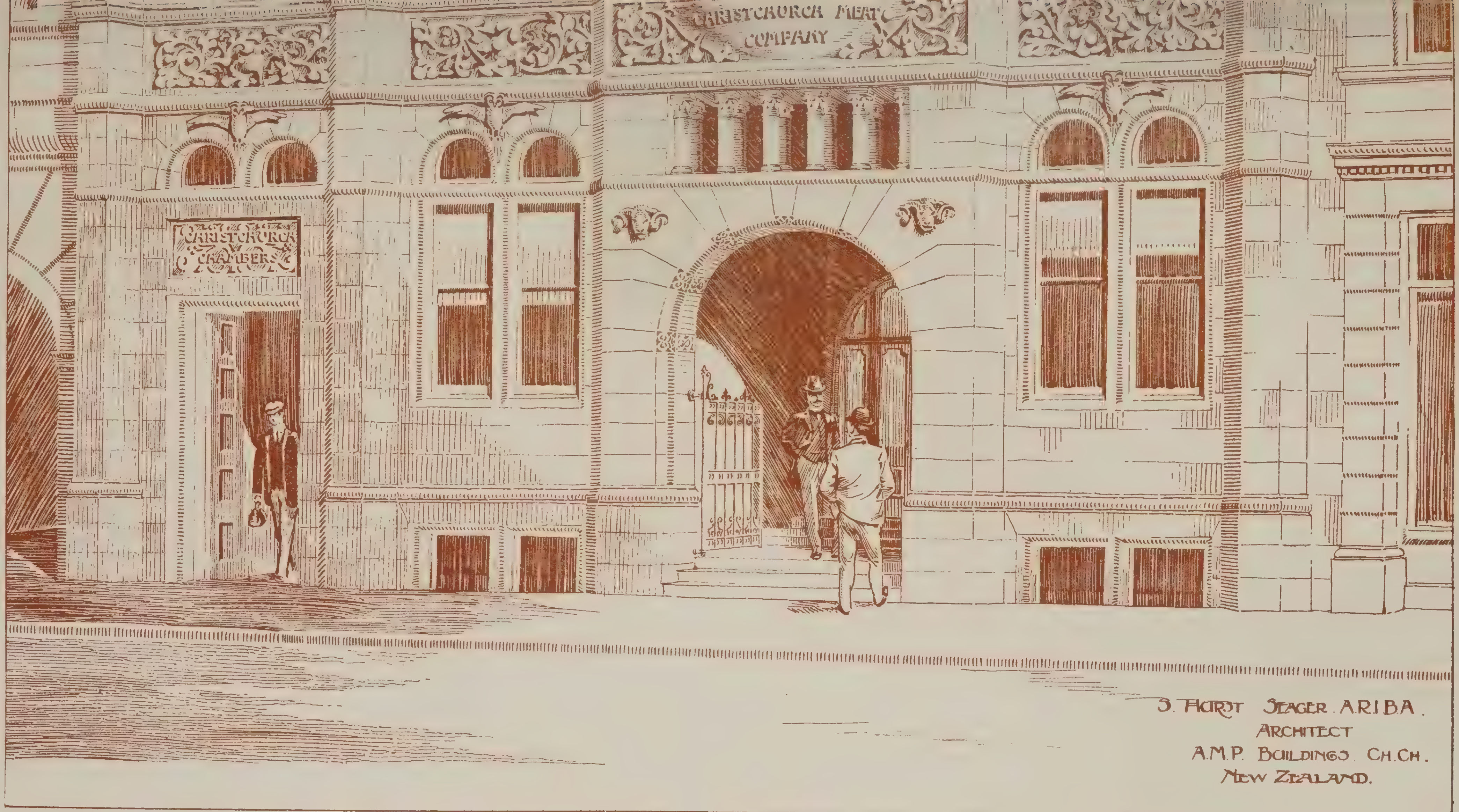
The Architect, Jan: 8th 1904





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S HURST SEAGER, A.R.I.B.A., Architect.

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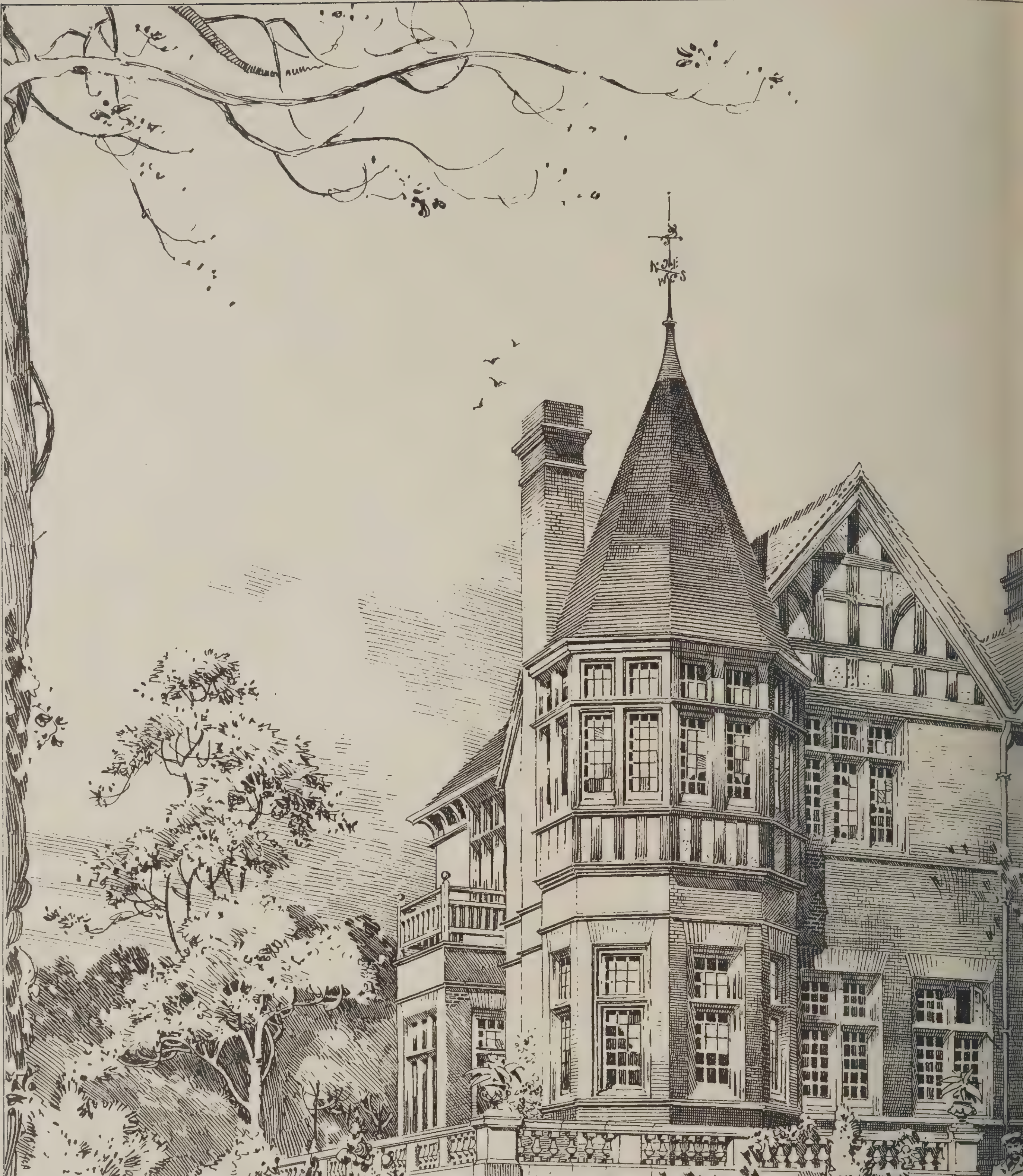
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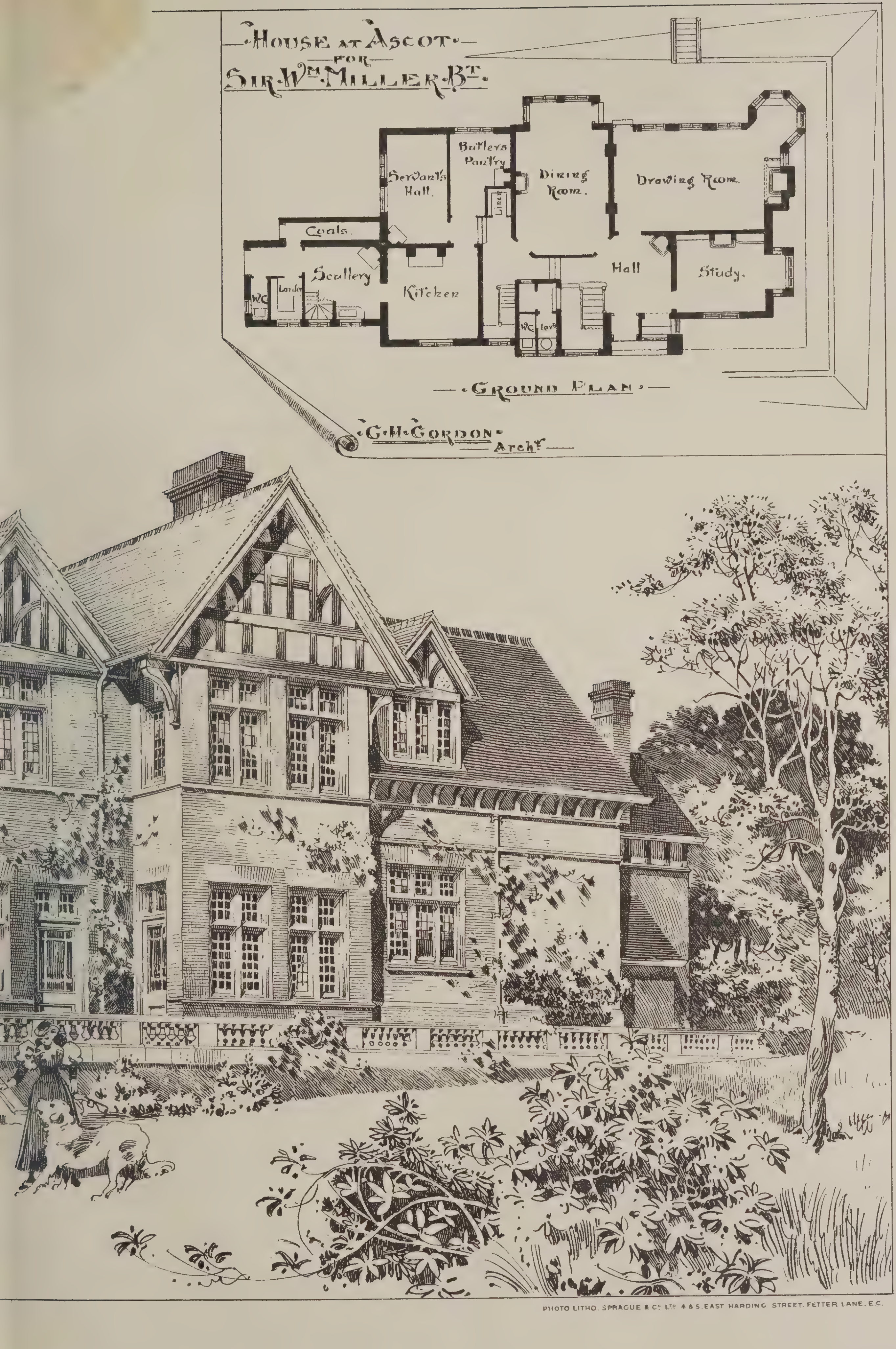
HOUSE AT ASCOT FOR SIR W^M MILLER B^T.

GROUND PLAN.

G. H. GORDON Arch^t.

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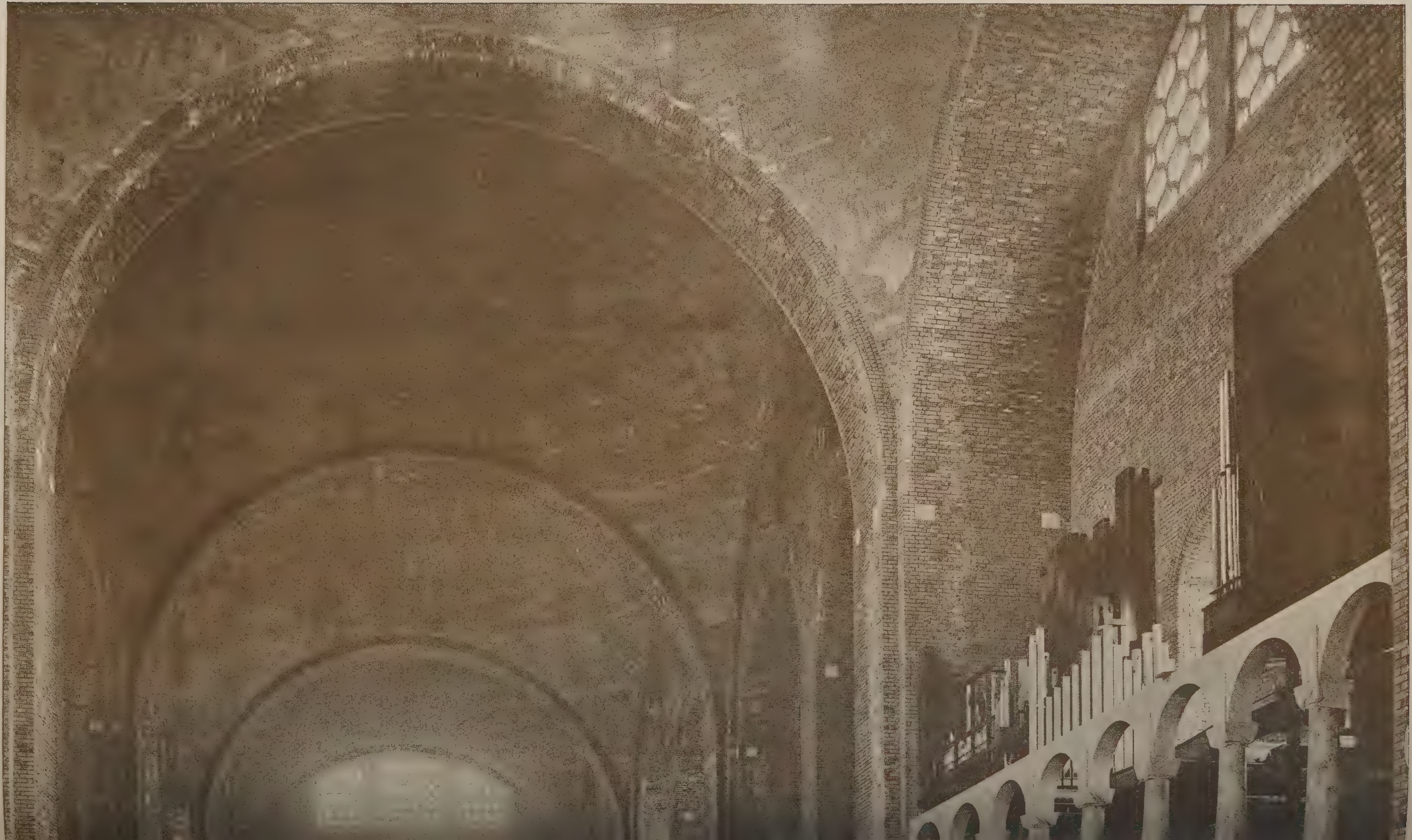

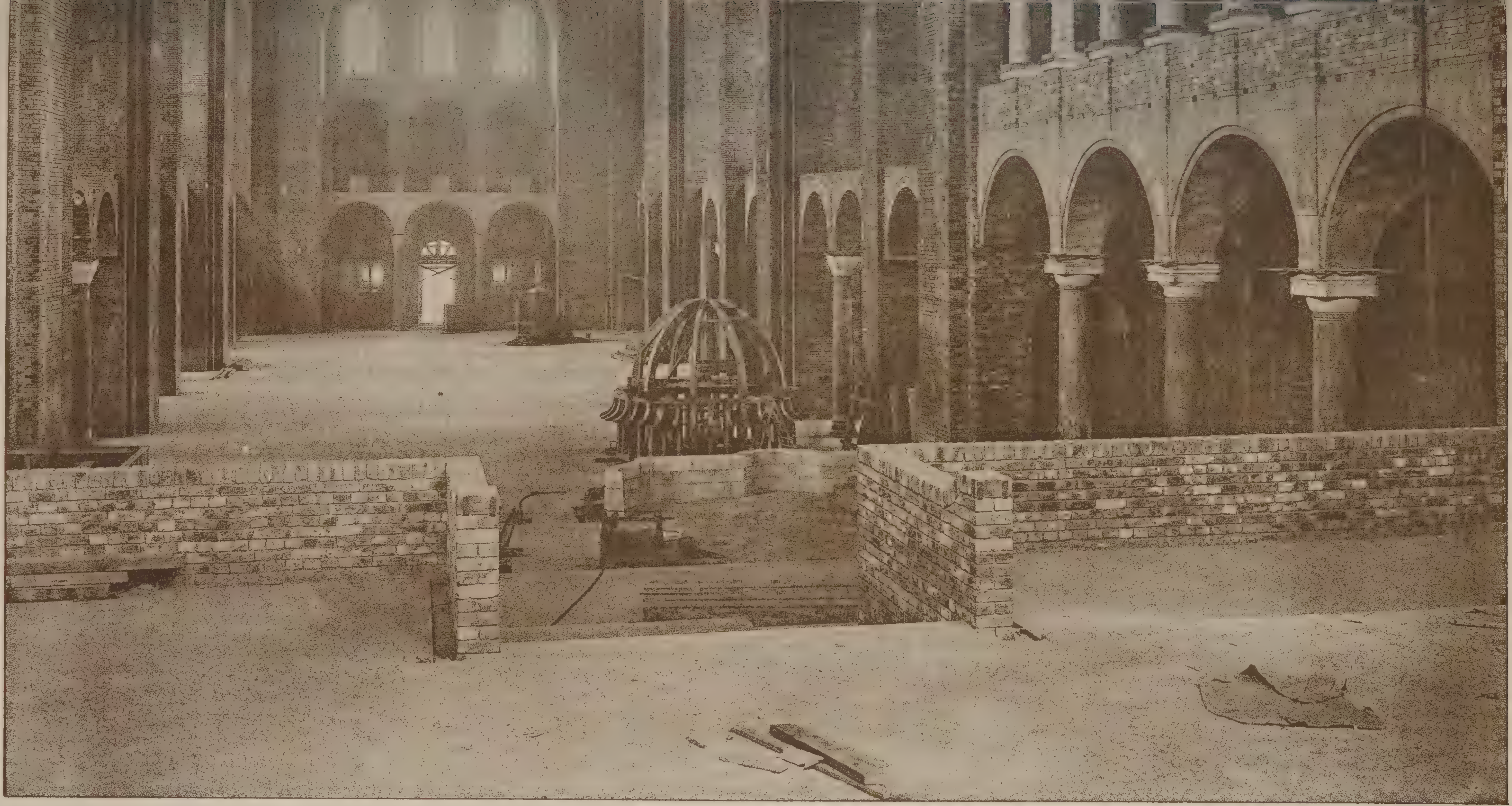

Roman Catholic Cathedral, Westminster: Nave, looking North, showing Organ.

The late J. F. BENTLEY, Architect.

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The Architect.

THE WEEK.

HE letter from Mr. ATKINSON which appears on another ge cannot be considered as satisfactory, and especially builders. We might expect a similar explanation from e of the Government departments, where it is believed en were made for official systems, not systems for men. it it was hoped the Standards Committee would take a fferent view of the needs of business. No doubt flooring sts and beams are only part of an immense quantity of products of rolling mills. They are, as it were, a ecies of a vast genus. That is the view of codists. it it should be remembered that the species, whatever it ay be in theory, in practice stands apart, and is inde- ndent. Many London builders who have ordered rolled ists probably never ordered a length of angle-iron or tee- n. They may have ordered girders of which angles and es form parts, but the circumstances of production are fferent. A builder will send for joists just as he would bricks. Somehow they are always required in a hurry, d therefore it is necessary for manufacturers and erchants to keep an immense stock of rolled beams in der to supply the sudden demands. The Standards ommittee consider that thirty varieties will meet requirements. Assuming that conclusion to be rrect, we consider that facilities should be given which a sort of individuality should be conferred each variety, in order that everyday purposes should be rved not only with despatch, but accurately. Throughout reat Britain mistakes are made every day by postal egraphists in confounding words. When the resemblance so close as is the case in the code words of the Standards ommittee it would be excusable if clerks and tele- aphists made a mess of orders. That would often cause rious inconvenience in building, and it could be avoided the simple arrangement we suggested. If "Fairbairn" re changed into "Farburn," or "Tredgold" into "Gold read," or "Telford" into "Belford," a foreman in an n yard would have intelligence enough to realise what s sought, and he would send off the joists without delay. other words, the difference is one of practice. To a dist or a superintendent of a telegraph office "absinthe" widely different from "absinthine"; but a builder's eman, for whom an hour's delay means perplexity, or a rd foreman on a foggy day at the river's side, is not sposed to enter into such niceties of spelling. Each nts descriptions which cannot be mistaken, and we have entioned those which would have that quality. Ap- rently, the only objection is that they do not correspond th the system of the Standards Committee, which, with 400,000 terms, is too vast for comprehension.

IT cannot be too generally known that a guarantee for builder must, in order to be valid, be properly executed e any other agreement. As was laid down by Chief stice BOVILL, such a document must be construed cording to the intention of the parties as expressed by the nguage employed, and for that purpose writing alone is be depended on. The expression of a desire by word of outh is not sufficient, although people may imagine the ntrary. A case of the kind which should be taken as a rning was heard in the City of London Court on onday. The plaintiff sued a firm of solicitors for 52*l.*, lue of goods supplied. From the evidence it appeared at a builder was erecting some houses at Isleworth, but, ving to financial difficulties, he was obliged to call his editors together. The defendants acted as solicitors for me of the creditors, and, as it was desirable that the ildings should be finished, they asked the plaintiff to pply certain goods for that purpose. The goods were pplied, the plaintiff thinking that one of the creditors ould have guaranteed the account. The creditor declined, d the defendants were therefore sued for the price of the ods, it being alleged that they had made themselves sponsible in saying that they would be glad if the goods re sent. The jury found that the defendants had both dered the goods and guaranteed them. Judge LUMLEY SMITH reversed the verdict, and entered judgment for the defendants with costs. It was true, he said, that the defendants had stated that they would be gratified if the plaintiffs supplied the goods, but that was not sufficient to make them liable in law. The decision of the judge may seem hard, but it is in accordance with the practice of the Courts. It is easy to "think" like the plaintiff, but if people would only employ the word "imagine" instead as expressive of their thoughts, there would be fewer actions on an unsubstantial basis.

OWING to the variety of statements respecting St. Bartholomew's Hospital which the newspapers have published, it is difficult to understand what is the true state of the question. A letter which has appeared from Sir TREVOR LAWRENCE, the treasurer, at last supplies information which is definite. He refers to the decision of the Mansion House committee, with only one dissentient, that it was impossible in the public interest to entertain the idea of removing the hospital from its present site. It was, however, considered that the site was inadequate. After conferences between the Governors and their staff, it was agreed to endeavour to find a site for the nurses' home, which would have to accommodate a female staff numbering 320, outside the hospital precincts, the remaining area of Christ's Hospital site having meanwhile been bought by the Post Office. The purchase of the land entails a charge of over 9,000*l.* per annum on the present revenue. As respects the building projects, the treasurer says:—"During the sittings of the Mansion House committee, and the whole of the latter part of last year, the hospital architect, Mr. I'ANSON, who had temporarily associated with him Mr. ROWLAND PLUMBE (one of the architects of the London Hospital), has been engaged in preparing plans for the distribution of the new buildings contemplated. But when the Governors, in concert with the medical staff, proposed to put the nurses' home outside the hospital area, these plans necessarily required revision. They have been carefully revised, and block plans, showing how the hospital buildings of the future may be distributed in more ways than one, have been prepared and submitted to the Medical Council." At the meeting on the 26th inst. information on the subject will be forthcoming. It is proposed to appoint a special building committee of Governors and members of the medical staff to deal with all questions of detail. Costly new buildings will be required, and the funds for them and for rebuilding the wards can only be obtained from the public.

LOCAL authorities are so prone to exercise power in lavish expenditure, it is easily understood why the number of rateable objects is increasing. At one time it would seem absurd to attempt to derive money from a hoarding with advertisements, or from a crane in a dockyard. But they are both recognised as property which must contribute to district expenses. Still more extraordinary is the effort lately made to levy poor rate on the huts used by navvies employed in the construction of a railway. The contractors were Messrs. MITCHELL & Co., of Glasgow, and they were engaged on the works of the Shireoaks and Laughton Railway. Owing to the absence of houses in the district they built timber huts with corrugated iron roofs for the men, which could be removed without injury to the land. The assessment committee of the Worksop Union assessed the huts at 10*l.* each, or 6*l.* 13*s.* 6*d.* rateable value, and charged a rate on the latter amount. The contractors on Friday appealed to Quarter Sessions at Sheffield. They contended that the huts did not come within the category of lands, tenements and hereditaments, did not possess the quality of permanence, nor were they in any sense permanently attached to the ground as fixtures; and that they formed part of the appellants' plant used by them in connection with the construction of the railway, and could be removed at any time as the work of construction might necessitate such removal. The rating authority, on the other hand, maintained that, inasmuch as the huts in question were each used for the accommodation of twenty to thirty navvies, they were hereditaments capable of producing a considerable revenue. The Bench held that the appeal should be allowed, but consented to state a case for the opinion of the High Court.

JEAN LEON GERÔME.

THE Royal Academy has lost the most distinguished of its foreign members by the death on Saturday night of JEAN LÉON GÉRÔME, the French painter. The circumstances recall the closing scenes of his friend, GUSTAVE BOULANGER, some years ago. Both had been dining with fellow-members of the Institut; both returned to their houses in the same unfashionable district of Paris, and both were found dead by their servants. The two men who in their studies and ambition had so much in common, and who helped in the neo-Grec movement of French art, thus departed from this world in solitude. In the case of M. GÉRÔME it is supposed that cerebral congestion was the cause of the fatality.

During many years there was no celebrity who was easier recognised in the streets of Paris than M. GÉRÔME. He was taller than the average Frenchman. He was lithe and active, and would pass for a cavalry officer who spent some hours daily in the practice of fencing. His erect bearing and the severe expression of his face seemed to mark a man who was accustomed to command. His attire had not the least indication of Bohemian revolt against proprieties, and, indeed, he was regarded by his fellow-artists as if he stood apart and had few of their common weaknesses and genialities. Occasionally he was able to unbend and enjoy a frolic.

It could not be said, however, that M. GÉRÔME was able to traverse a different course from that of the ordinary painter. He was born in 1824 in Vesoul, a small town in the east of France, not far from Belfort. He was the son of a goldsmith, and, being successful in the local art schools, was sent to Paris at the age of seventeen and entered the studio of PAUL DELAROCHE. Although he was a clever student he did not succeed at the Ecole des Beaux-Arts in gaining the Prix de Rome. When DELAROCHE temporarily closed his studio he advised GÉRÔME to join DROLLING'S studio, which was then in favour. But the student showed his resolution by declining, and went with his master to Rome.

In 1847 he sent his *Combat de Coqs* to the Salon. The picture is now in the Luxembourg, and it has been made familiar by photography and engravings. The subject was simple, a tawny young fellow inciting a couple of cocks to fight. It was smoothly painted, and yet could be considered as a vigorous work. Frenchmen had been accustomed for a very long period to see Classical subjects in their exhibitions. But the painters vied with one another in endeavouring to suggest that Greeks and Romans were exalted beyond common humanity. M. GÉRÔME had the courage to indicate that the people were not without their failings. He was hailed at once as a leader, and a young school of Classicists, who became known as Pompeists, were glad to gather round him and renounce all allegiance to the school of INGRES. The picture obtained a third-class medal, which was all that the regulations permitted for a first work. In the next year M. GÉRÔME proved he could also be fanciful by his *Anacreon, Bacchus and Cupid*. A French painter in those days believed it to be advantageous to display proficiency in a diverse class of subjects, and he therefore produced a *Blessed Virgin with Child and St. John*, which would serve for the decoration of an altar. He was awarded a medal of the second class. Other Classic subjects followed. Then he travelled in the East of Europe in order to be able to extend his range. One picture he derived from life in that region was *The Slave Market*, showing a turbaned Turk putting his fingers in the mouth of a beautiful nude girl, and thus examining her as he would a horse. A more cynical picture was never painted, but it could not be alleged that it was untrue to reality.

The International Exhibition of 1855 was anticipated by the younger French artists as a splendid opportunity to reveal their powers in rivalry with the rest of the world. M. GÉRÔME sent *A Recreation in the Camp*, a concert of soldiers, which he derived from his journey through Moldavia the year preceding, as well as a shepherd and a pifferaro. But his most ambitious work was the *Siècle d'Auguste: Naissance de N.-S. Jésus-Christ*, which is now in the gallery of Amiens. It measures about 36 feet in length, and was inspired by a passage of BOSSUET, in which the peaceful condition of the Roman Empire was suggested as opportune for the commencement of the Christian era. In architecture plays an important part, for several buildin are shown, amongst which is the closed Temple of Janu The Emperor is seated with his right hand resting on t figure of a young woman, symbolising Rome. On his le are poets and artists (VITRUVIUS among them), who a aiding in the celebration of the glory of AUGUSTUS. C the other side is a corresponding group of senators. Ne the throne are figures of TIBERIUS, CALIGULA, CLAUDI and NERO, thus suggesting that declension was to follow t apogee. Representatives of the East and of other countri which recognised the supremacy of Rome are introduce Amidst so much that was distinctly Roman the small grou of the Nativity might appear to those unacquainted wi the history of the world to be out of place. The pictu anticipated the colossal exploits of GUSTAVE DORÉ. T public, however, were not as captivated by the lar example as by those on a small scale, for the collecti obtained for the artist only another second-class meda He was fortunate in being admitted to the Legion Honour, which was a compensation.

The Salon of 1857 afforded additional evidence M. GÉRÔME'S versatility. His *Pierrot Expirant*, or, as it sometimes called, *The Duel in the Snow*, was one of tho works which appeal to all Parisians. Never were farce an tragedy more clearly suggested. Half a dozen men costume proceed from a masked ball to the Bois de Boulog very early on a morning in winter. There was a quarrel some kind between a pierrot in white and a North Americ Indian. Apparently none of the party was sober. The was a wild combat with swords, for some of the feathe adorning the head-dress of the Indian are lying in the sno Eventually the pierrot is pierced, and all become sudden sober. Harlequin hastens off with the victor, whi the other three surround the victim. In the distance seen the fiacre which conveyed the party. So fatal a resu was doubtless not anticipated, but if men will go to fan balls and drink and quarrel, what else is to be expecte It was an indication of the artist's cynicism The pictur which was purchased by the DUC D'AUMALE, will have i moral so long as the world lasts. There is no doubt deserved the médaille d'honneur, but the whole of his wo in the exhibition was left unrewarded, although in that ye he had also sent his *Egyptian Recruits crossing the Dese* and *The Prayer of an Arab Chief*.

His experience of Egypt and his love of Rome we both suggested by his picture of *Cleopatra and Cæsa* About that time he painted a picture of BUONAPART riding on a camel in front of the Sphinx; and in lat years he also presented another scene from the warrio short career in Egypt. There was then a belief among o class of painters, as well as among many of the Frenc public, that the Imperial Court did not observe a seve standard of ethics. Such paintings as *Phryne before h Judges* were interpreted as if they were especially com missioned for some of the apartments in the Tuileries. was, however, a groundless assumption. From the fir GÉRÔME had been known as an artist who was compete to represent the nude, although he so often painted figur in costume which could not have been originally based studies from a nude figure. About this time he also trie his hand on French historical paintings. *His Eminen Grise*, showing RICHELIEU'S confessor and confidant comi down a grand staircase regardless of the obsequious nobl who bend before him, was deservedly successful. His tw paintings of the procession of the gladiators around th circus before the combat commenced, with the companio piece in which the mob, and particularly the wome were seen yelling for the death of a wounded combatan were spectacular pictures recalling the brutality of Im perial Rome. His *Death of Cæsar*, which suggeste the cowardice of the friends of the great Roman, wa another popular picture which all could understan GÉRÔME'S talents were no longer disputed. In 1865 h was elected a member of the Institut at an age almos unprecedented. In 1867 he obtained a médaille d'honne from the exhibition, and became an officer of the Legion Honour; in 1874 he received a similar honour fro the Salon. His *Execution of Marshal Ney* was one of th most pathetic of pictures, for it represented the corpse the bravest of the brave stretched on the ground while th firing party, like an awkward squad, shuffle away in the semi-darkness just as if they had been going through an ordinary round. He varied those historical pictures occasionally by small works of one or two figures such as the *Collaborateurs*, of which we published an illustration.

M. Gérôme in some of his nude pictures showed a love of the sculpturesque. It could not have surprised those who had studied his works attentively when he sought renown as a sculptor. The most interesting of his attempts was the statue *Bellona*, which was exhibited, but not for the first time, in Burlington House. For it various coloured materials were employed, but it failed to secure the public admiration either in the Salon or the Royal Academy. It was an attempt to revive an ancient practice, and if placed in some special alcove or with suitable hangings around it the effect would probably be enhanced.

French artists, like those of other countries, endeavour to have their names associated with a particular class of work. By that means their contributions are at once recognised in public exhibitions or in a private gallery. But M. Gérôme had no ambition of that kind. If a large collection of his works could be brought together—and we hope the Royal Academy will make the attempt next winter—spectators would be first struck by the marvellous versatility of the artist. He could treat detail on as small a scale as Meissonier, and his cabinet paintings are marvels, not only for the skill shown in figures and costume, but for the labour lavished on accessories, such as the tiles of a bath or the vessels to hold perfumes. But his *Age of Augustus* denoted that he was not unwilling to paint large pictures, and he was able to exercise a power in them which was wanting to Meissonier. He was confined to no one period. He selected incidents from the life of ancient Greece and Rome, French historical scenes, Eastern scenes, and when the opportunity was offered, as in the *Reception of the Siamese Ambassadors*, he was not afraid to make a picture out of a nineteenth-century pageant.

In most of his works it is easy to see he was a cynic. The death of Cæsar and the execution of Ney suggest ingratitude. The weakness of men was marked not only in the pride of the grey cardinal, but in the Cleopatra, the Pierrot and the Siamese ambassadors. It is doubtful whether he thoroughly enjoyed any of the scenes he represented unless as they enabled him to become ironical. He was accustomed to sneer at Meissonier for identifying himself with Napoleon to such an extent as to believe he was the best model for the figure of the Emperor, and used to draw himself, as reflected in the glass, with the grey surtout and cocked hat, or as a nude body. Gérôme could not let himself go to that extent, for he was without enthusiasm. But it cannot be denied that his peculiar idiosyncrasy enabled him to be impartial, and a historic scene as represented by him is more likely to be accurate than when described by historians. His death removes a man who was a link between the times when classicists and romanticists contested in other ways besides producing rival pictures. He, too, had the courage to assert his own ideas regardless of risk, for few men would have dared in recent times to produce caricatures of Frederick the Great at which Prussian courtiers could not help laughing. But he would never bring himself to adopt the facile processes of his later contemporaries. What he was in 1847, he remained to the close of his career—that is, a most careful painter, who, when he took up a subject, spared no toil to make it a masterpiece.

TECHNICAL EDUCATION IN EDINBURGH.

A COUPLE of months ago we described at some length the recommendations of a departmental committee that was appointed to inquire into the administration of the Scottish Board of Manufactures. The Board was so important an institution as to form, as it were, a stratum on which other institutions were founded or reposed. Manufactures became a comprehensive term, and related to fine art as well as to applied or industrial art, besides some branches of technical education. The recommendations related not only to the future of the Board, but to the National Gallery, the National Portrait Gallery, the Royal Society, the Society of Antiquaries, the Royal Scottish Academy and Dunblane Cathedral. It was suggested to establish a new art school on the lines of one in Glasgow, and the Applied Art School was to be incorporated with it, but for as long as possible was to be under the control of Sir Rowand Anderson. We reprinted some of the evidence which was given, from which it was apparent that a student who wished to devote himself to fine art as a painter, sculptor or architect, or preferred to follow some trade or business in which a knowledge of art was advantageous, would find no difficulty in obtaining the necessary instruction in Edinburgh either gratuitously or on almost nominal terms.

It is well to remember that Edinburgh is not an easy place to provide for in such matters. It has undoubtedly an excellent University, which does not follow the Mediæval curriculum. New classes are from time to time added according as funds are provided. For some years past courses of fine art have existed which can be considered as successful. But the spirit and functions of a university must be respected, and although building workmen, it is said, attend various classes, the most eager advocate for modernity would hardly desire that they should go there for instruction in bricklaying, joinery or plumbing. At no time was it an easy matter to define what constituted a university in a few words; but yet all who take an interest in education have a notion of both what it is and what it is not. Whether other modes of instruction are to be considered preferable to the university courses, or *vice versâ*, need not be discussed. But in Edinburgh some students will almost instinctively go to a university, while others will prefer an art school, an applied art school, or technical classes.

We have only to consider the circumstances of such cities as Birmingham and Manchester in order further to realise the difficulties of dealing with technical education in the Scottish capital. It has gained no reputation for special manufactures, and the majority of its citizens probably desire that it would never succeed in that way. In Manchester and Birmingham, on the contrary, there are manufactures whose interests should be subserved by technical, or, it may be, all educational institutions. As a consequence there is, or can be, a definitiveness in their art or technical schools which is not possible in Edinburgh. What we have already said on the subject will suggest the extent to which the difficulty has prevailed from uncertain aims. The Board of Manufactures claims to have established as far back as 1761 a school of art for manufactures. But in course of time industrial art seems to have lost ground, for the tendency was towards fine art. But yet it was asserted that even under that influence the Board was not indifferent to manufactures, and that the linen industry, among others, continued to be aided by designs of a superior kind. To the credit of the Board, it must be allowed that when the Applied Art School was set up generous help was given.

The foundation of that Applied Art School was a commentary on the haziness of the views of the art instructors in Edinburgh. Sir Rowand Anderson made building the dominant factor, with the result that some considered it was too narrow in its objects, while others maintained that he did not go far enough into details. One witness, for instance, complained that the teaching of stained-glass designing was not sufficiently practical, and that in other subjects also there should be teachers who were specialists.

All the questions we have mentioned arose out of the position of the Board of Manufactures. But there is another body in Edinburgh independent of the Board, and therefore could only partially come within the purview of the departmental committee. This is the Heriot-Watt College, which appears to have been no less anxious than the Board to help the humbler classes of Scotsmen who were ambitious to be taught. The Governors were asked by the Board whether they could not take up the work of the Applied Art School as well as of other classes. No time was lost in erecting a building with a floor area of 15,000 square feet at a cost of 8,000*l*., and in obtaining land which would allow of the addition of 25,000 square feet. It was officially stated that "the object of the Governors has been to provide for the art teaching in so far as it forms part of technical education, and their reasons for doing so are due to the fact that the college is closely in touch with the trades of Edinburgh, and is largely attended by the artisans of the town and others who require an artistic training." That the connection of the college with those who follow crafts is a real one is seen from the numerous students attending the trade classes. There are 278 in building construction, 65 in carpentry and joinery, 96 in painter's work and 31 in masonry and brickwork. Students of the painters and decorators' classes can attend the art classes free. The Governors say, and no doubt with reason, that "the development of the art and trade classes side by side has in the past proved most successful, and it is questionable whether a new institution which has not got the traditions of the Heriot-Watt College would succeed in gaining the confidence and support of the artisans of Edinburgh to the same extent as the Heriot-Watt College has done in the past."

Recently the Governors entered into amicable arrangements with the University authorities which would enable the students in the engineering courses to utilise the machinery and apparatus in the Heriot-Watt College. They are no less desirous to co operate in the training of architects, for in the official statement it was said "the work done by the Applied Art School in the training of architects seems to fall naturally to the Heriot-Watt College, and would form a most valuable and stimulating portion of our art department. We have been, therefore, very anxious to meet the wishes of the Applied Art School committee and try and combine our forces so as to carry on this work in the college."

The Governors consider that as there is no other institution in Edinburgh in which so efficient and practical a series of courses can be obtained both for art and technical instruction, it was inequitable that there should be no inquiry into the work done under the Trust. The business of the committee was, however, with the Board of Manufactures. But then the question arises, Was it wise to offer recommendations which may be enforced by a change in the law on the basis of a partial inquiry? Officialism may not care to deal with Governors who hold an independent position, but it seems to be uneconomical to have a great institution like the Heriot-Watt College turned into a sort of rival concern to the official schools. Art with a certain class of people is supposed to be an independent entity. That may be true as regards fine art, which is, or should be, as much the expression of an artist's thoughts as poetry or music. But there is truth in what is asserted by a committee of the Heriot-Watt College that "it is impossible clearly to define the dividing line between what falls under the heading of art education and what under that of technical education." It is also remarked on the subject of the provision for the teaching of the students of architecture that the combination of a complete system, or as nearly complete as it is possible to have in a school, is always advantageous. Here is one passage that is worth consideration :—

> Fine art forms a necessary and useful part of the education of an architect, but his professional education is by no means complete with a course of artistic instruction. The more practical matters ought not to be neglected, and it may be held that the practical course for architects in the Heriot-Watt College, combining as it does instruction in mathematics, sound, light and heat, applied mechanics, hygiene, building construction, graphical calculation and quantity surveying, with the more strictly art subjects, offers a very efficient educational training for the work of the profession Indeed, it is usual for many of the students of the School of Applied Art to proceed to the Heriot-Watt College to obtain instruction in these practical subjects. The committee consider that the artistic and the practical sides of an architect's education are equally essential, and that such education should be obtained in the college, which is capable of affording both To attach the artistic side to a separate institution under different management, and without any co-ordination, cannot but disturb the continuity of a thorough and inclusive professional course. The same remarks equally apply to other professions and trades in which applied art is employed.

The conclusion drawn is that the teaching of applied art should be handed over to the Governors. Anyone who considers the subject at a distance, and who is free from the influences which prevail in Edinburgh, must be disposed to cry out with MERCUTIO, "A plague on both your houses!" The CAPULETS of the reformed Board o Manufactures and the MONTAGUES of the Heriot-Wat College are each desirous of supremacy. Monopoly rather than co-operation is sought. As regards education everything will depend on the class of teachers employed. The excellent buildings of the Heriot Watt College, and the number of classes simultaneously in progress, will not avail unless men who have had experience as well as ability undertake to direct the instruction. The Scottish student is shrewd enough to decide which classes are likely to be best for him. There is also a question of influence to be considered. The Heriot school is an older institution than the Board of Manufactures, but the latter will no doubt claim to exist under official auspices. Which is the more deserving of attention it would be difficult to decide. As far as we can make out the success hereafter of the Board's school in a great measure depends upon Sir ROWAND ANDERSON, and he does not appear likely to become an auxiliary of the Heriot-Watt scheme. There is undoubtedly an embroglio, and one which may last for some time. The Board's schools will have to be transformed, and that will take a considerable period. Meanwhile the Heriot-Watt College classes are in working order, and the Governors might seize the opportunity offered and gain enduring prestige. But then the question of expense arises, for apparently the claims on the funds, of which a large part were the savings of the old Scottish goldsmith, are too heavy to allow of increasing the provision already assigned to the teaching of art and science. There is likely to be a waste of power, as well as money, unless Scottish shrewdness comes to the rescue of what is a superfluity of educational establishments.

THE WINTER EXHIBITION.—II.

A VISITOR to the Winter Exhibition who feels an interest in the representation of architecture would do well when he enters the third room to seek first the view of *Verona* ascribed to CANALETTO. It does not resemble the works which are generally supposed to be characteristic of the painter. Nor does it show the parts of the old city which Mr. RUSKIN admired. There is no suggestion of CAN GRANDE and his tomb. We see only the houses on the banks of the Adige with other buildings, the majority being of a commonplace character. But what is noteworthy in the painting is the rigid verticality of the lines. Of late years the notion has existed that the picturesque demands broken lines, and we sometimes find in the Architectural Room designs of proposed structures in which they appear to have sustained the wear and tear of a century or two. The painter of the view of *Verona* had no affectation of that kind. He depicts the buildings in their soundest state. He was also handicapped by the simplicity of the forms and the prevalence of the white colour. By variation of shade he has been enabled to present a scene which is undoubtedly picturesque. The *Laguna and Church of San Giorgio, Venice*, belonging to the Corporation of Glasgow, bears GUARDI'S name, but it is more in the style of CANALETTO. The large Spanish landscape, with the palace of the Escurial in the middle distance, is a remarkable work both from its subject and its history. The scene is one which even in a photograph is striking, and it has been described with his customary eloquence by THÉOPHILE GAUTIER. The picture, when in RUBENS'S house, was seen by EDWARD NORGATE, who spoke of it to CHARLES I. The king desired to obtain possession of the work, and his agent, Sir BALTHAZAR GERBIER, entered into negotiations. RUBENS, who was an honest man, in reply wrote :—"Seeing myself pressed to speak the truth and not to deceive His Majesty of Great Britain, to whom I am under so many obligations, I confess that the said picture is not by my hand, but entirely painted by one of the most common painters (called VERHULST) of this city, after my design made upon the spot. So that it is not worthy to appear among the marvels of the cabinet of His Majesty." GERBIER afterwards wrote to INIGO JONES to say that he had received the landscape done by a painter at Antwerp after RUBENS'S design; and he asks the Surveyor-General to ascertain whether RUBENS is to be paid for the work or whether the value is to be made good to him in bargaining for a different picture. In another letter RUBENS states that the picture was finished under his direction, and he hopes the extravagance of the subject may give some recreation to the king. RUBENS did not survive the transaction many weeks. It is impossible to determine what is the extent of VERHULST'S indebtedness to RUBENS'S drawing. He was of no great standing in Antwerp, and the words of RUBENS, "un peintre de plus communs," is suggestive of a journeyman. But the landscape is vigorous; it is perhaps rather monotonous in colour, but that was supposed to be necessary to express the character of the district.

The *Dream of St. Jerome* at a distance would be taken for a *Judgment of Paris*, but there are four nude figures instead of three. The saint is at one side asleep, and he seems little more than a bundle of drapery, and might with advantage be obliterated. His lion also appears, and is fondled by Cupids. It is the work of some unknown master of the Venetian School, and may be called an Italian version of the "Temptation of St. Antony," a subject once familiar in northern art. The *Adoration of the Shepherds*, by BONIFAZIO VERONESE, is one of those paintings which must be considered as a portrait group; the men are clad as shepherds, although their refined features show they were gentlemen who were contemporaries of the painter. *Violante, Daughter of Palma Vecchio*, by PARIS BORDONE, is another of the numerous Italian women who suggest that the KATHERINE of "The Taming of the Shrew" was not an unique being or imaginative. A pendant to it is a portrait of an *Italian Lady*, by PARMIGIANO, from the Hampton Court collection, in which is depicted a most curious costume; it is described as "an elaborate embroidered dress of interlaced black braid on a light red ground," but the words do not express the intricacies of the arrangement.

A full length portrait of CHARLES I. corresponds with other representations of the king by VANDYKE. The painter it is alleged did not always paint the hands from those of his subject. But he knew how to dispose of those he employed. In this case they are handsome, but they hang so irresolutely as to appear nerveless and incapable of grasping anything. They suggest how unfitted was CHARLES to rule strong men. The companion, *Henrietta Maria*, shows the queen in a white satin dress, and also standing near a table. The two brothers *Lord John and Lord Bernard Stuart*, another of VANDYKE'S works, are typical cavaliers, but handsome nonentities. REMBRANDT'S *Portrait of a Lady*, a half figure, has no dazzling chiaroscuro effects. The lady is not a beauty, but the artist evidently bestowed great care on her portrait. The *Juan de Pareja*, by VELASQUEZ, is a portrait of the slave of the painter who acted as his factotum. It is in excellent condition, and suggests a Moor who was without much craft. *The Virgin and Child with St. Peter and St. Mark*, by BONIFAZIO, exemplifies one innovation in the use of a striped garment for St. MARK. The picture is of small size, but it has almost the effect of a larger work. GIROLAMO DANTE, or TIZIANO, was a copyist of the greatest of the Venetian masters. In his *Pomona* the goddess is lying on the ground with her arm round her husband VERTUMNUS, who appears as an old woman. There is a contrast between youth and age, but many will consider the most interesting part of the picture is CUPID, who looks knowingly at the spectator and slyly points a finger at the couple as if he were a comic actor. The two paintings by NICHOLAS POUSSIN—*Confirmation* and *Extreme Unction*—are so characteristic they can be identified at a glance. For a long time the French master has been undervalued. Colour has gained preference to form, and only when he could use yellow and blue did POUSSIN allow himself a palate with any but the coldest colours. But he was a master in modelling and grouping, and every one of his paintings are conspicuous for dignity. In one painting there are seventeen figures and in the other fifteen. They represent the performance of religious rites in the primitive Church. Modern archæologists may not approve of the vestments or of the action, but pictorially considered both are admirable.

The Water Colour Room this year is utilised to display several examples of English sculpture, mainly statuettes, and Italian bronzes. The former are enough to excite regret that bronze castings are not as much admired in London as in Paris. The figures by the late ONSLOW FORD, such as *Applause*, a *Horse*, a *Camel*, *Snowdrift*, would in Paris be familiar by their copies to all Boulevardiers. The late HARRY BATES'S *St. Eustache*, the Roman soldier and martyr, and *Earl Roberts* also merit reproduction. Regarded as works of art, Mr. BATES was able to do more justice to his remarkable talent in his panels of HOMER, SOCRATES, PSYCHE and ÆNEAS. The only objection that can be made to them arises out of the carelessness with which hands and feet were modelled. It was one of the defects of the South Kensington system that students believed they could sacrifice anatomy if a more vigorous result was obtained; and we have heard that a student was once praised because in the figure of a harpist each hand was allowed six fingers. GODFREY SYKES was a notorious offender in that respect, and he found many imitators.

The Italian bronzes principally belong to successful financiers. It is easy to understand that during the Renaissance period artists thought less about the difficulties of producing figures in bronze than is now the case. Everybody could model, and it was a simple matter to perpetuate exercises by means of clay as terra-cotta or in metal. The elegance which is now expected from a bronze figure was not then necessary, and the majority of the examples in the case would not be judged deserving of attention if they came out of a modern school of art and were formed in modelling clay. But in describing the pieces as fifteenth or sixteenth-century productions; by attributing them to the school of some famous artist, if they are not assigned to one, they assume a different character. There are a few good knockers and inkstands, but the figures which must be recognised as possessing merit are exceedingly few. Some years ago there was an exhibition of Italian works on a small scale in bronze and marble that was a delightful surprise to visitors, and the collection was generally regarded as of more interest than the paintings. But the bronzes this year are of inferior quality, and it needs some trouble to discover those which are worth admiration.

In the Black and White Room, besides bronzes, are several drawings by Sir THOMAS LAWRENCE. They were produced in black and red chalk, and are sufficient evidence of his dexterity as a draughtsman. Some miniatures by the late H T. WELLS are also hung, but they do not attain a high standard. Examples equally good used to be seen in the halls and ante-rooms of artists like Miss LA CREEVY and her competitors. But on the whole the Exhibition must be considered as attractive. Landscape-painting has been sacrificed, for it seems incredible to have a Winter Exhibition without any example of TURNER. What is generally known as the Dutch school is not represented. However, the absence of certain classes of work is not always disadvantageous, for the exhibitions seem to be based on stereotyped and unalterable conditions, and this year may therefore be accepted as an innovation which we hope will be often rivalled.

WYMONDHAM ABBEY.

THE old abbey church at Wymondham was reopened on the 8th inst. after having been closed for a considerable time in order that it might be thoroughly restored. This work was commenced in August 1901 and was of a very extensive character, but such progress has been made as to enable the nave and south aisle to be again used for public worship. The interior of the church, so far as it has been completed, now presents an imposing appearance, the nave, with its beautiful Norman work, reminding one of a miniature nave of Norwich Cathedral. The details of the schemes of renovation have been previously published, and it is unnecessary to say more than that the old roof, so much admired by experts, has been skilfully restored, the floor has been laid with wood blocks, the stonework has been thoroughly overhauled and restored, and the memorial tablets have been removed from the pillars to the wall of the south aisle. All that is now required to be done is the renovation of the north aisle, in which the services have been held whilst the other work has been in progress, the erection of a reredos, the provision of seats, and the painting of some frescoes over the altar at the east end.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last, Mr H. T. Hare, president, in the chair.

Messrs. F. Goldsbrough, W. A. Whiddington and H. P. L. Cart were elected as members.

On the motion of the President, a vote of condolence and sympathy was passed with the relatives and friends of Mr. W. Payne, liquidator of the Royal Architectural Museum, and also with the relatives of Mr. Howard Dru-Drury.

Mr. H. STANNUS gave an informal lecture on

Egyptian Architecture.

It was well, he said, in studying the arts and products of a country to have a map of a fair size and to realise the geographical conditions In the history of the evolution of Egypt it was important to distinguish between the two countries with their surroundings. Egypt was in reality divided into two parts, Upper and Lower. Lower Egypt was a fertile country of reeds which grew in the swamps of the delta, whereas Upper Egypt was formed by rocky cliffs. The materials available in each country had dominated the design both in the construction and details of building. The reeds from the swamps in Lower Egypt were tied into bundles and plastered with mud by the earliest inhabitants to make huts. In Upper Egypt the habitation was hollowed out of the rock. In the earlier periods the differences between the two countries were more pronounced, but intercourse between the different peoples tended to obliterate this. Thus up till the eleventh dynasty there was a parallel development of the compounds of the shaft in Lower Egypt and of the stone pier in Upper Egypt. The workman had conquered his material through better technical equipment, and the improved carrying facilities enabled the inhabitants of the lower region to make use of the quarries in the upper districts of the Nile, and the architecture of the two countries developed into one style. An impetus was given to the growth of the architecture by the kings of the eleventh and twelfth dynasties, and the architects were able to meet the demands on their ability. The hyksos, who were Shemites, had up to this period dominated the whole of the delta around Thebes with a quasi-dependence, but, defeated in war, they were driven out of the land, and Egypt became one country, the king styling himself "Neb Tam." The victory was signalised by the combination of the symbolic plants, the papyrus and the lotus. The subsequent periods showed a great advance in the architecture. As the result of conquests and travel the designs were sometimes exotic in character, resulting finally in great richness of detail, until the style gave evidence of the Greek mind working with Greek principle on Egyptian details.

Mr. STANNUS illustrated his remarks by numerous lantern-slides made from photographs he had taken in Egypt.

A vote of thanks, proposed by Mr R. PHENÉ SPIERS and seconded by Professor ELSEY SMITH, was passed to Mr. Stannus. Messrs. J. D. CRACE, R. P. JONES and ARNOLD MITCHELL supported the motion.

WALLED TOWNS IN ENGLAND.

A PAPER was read by Mr. C. H. Bothamly at the Camera Club on "Walled Towns in England." He referred to the fact that such fortifications as there were in pre-Roman times were intended for the protection of the community. Under the feudal system, which was the result of the Norman Conquest, the property and power of the individual were so guarded. It was interesting to note that in this country there were few remains of fortified towns of the period of the Norman Conquest. Such as there were belonged to places like Southampton on the sea and York inland, which were fortified because they were important military stations. The earliest walls, as distinct from banks of earth, were made of trees, strengthened by building in stones or by piling up earth and sods. He thought that no remains of walls of that kind had come down to us. There was a remarkable example of a walled camp at Weston-super-Mare, where the containing ramparts were built up in something like regular fashion, but without any mortar. The ruins of walls belonging to Roman towns were comparatively few, and the most complete were at Colchester, and dated back to about A.D. 65. The materials used were flint and flat tile-like bricks set in alternate rows and secured by exceedingly hard mortar A very smooth surface was presented, giving but little foothold to the most active. On the east side stood a Roman mural tower. The walls at Colchester were last used for protective purposes during the Parliamentary War, when they stood a long siege; at Lincoln and at York there were fragmentary remains of Roman walls. Yarmouth was still a walled town. In Roman times it was not of much importance, but later on, from A.D. 1280 to 1350, it was well fortified, and was a good instance of the way in which a rive was guarded. Here was to be found one of the finest mura towers left in England, part of which dated from the thirteent century. Norwich was another example of the guarding of river, two towers being placed one on either side of the wate to obstruct the passage of an enemy. The same genera character of the walls—namely, much flint, intermingled wit flat bricks—was to be observed as at Colchester and Yarmouth King's Lynn was the only walled town which still retained it ditch in a wet condition. The south gate was worth remarking as it was loopholed for early forms of artillery. Southampton as the chief port for France, was fortified from very ancien days, and part of the wall was still in existence, being to som extent Norman. Practically all that remained of the walls a Oxford was in the gardens of New College. Conway was ever to-day entirely walled, and was one of the most perfec examples of its kind in the West of Europe. The fortification which were erected in the time of Edward I were in the shap of a Welsh harp, with a castle at one end and half-round towers at intervals. The lecturer pointed out that in nearly all walled towns it was provided that the attacking forces should be subjected to three tiers of fire.

USHER HALL, EDINBURGH.

AT a meeting of a sub-committee of the Lord Provost's committee of the Edinburgh Town Council revised plans of the exterior of the Usher Hall were submitted from the architect's department. The alterations made on the original plan had been done, says the *Scotsman*, with the view of giving a more dignified aspect to the façade as seen from Princes Street. To this end the pillared portico in the centre had been somewhat curtailed, so as to allow of a more solid and supporting treatment of the wings; while the hall, rising high above it, had a wall head on which statuary could be set against the sky-line, and a dome crowned with a lantern and figure. The main entrance is shown approached by a flight of steps, which might be of either of two heights, according to the level upon which the street floor will be planned, and having on each side broad pillars on which groups of statuary could be placed. A feature of the new proposal is the appropriation of the portion of Castle Terrace Gardens extending from Cambridge Street to Cornwall Street, for the purpose of forming a terrace in front of the hall. This would be accomplished by building a retaining wall, with certain ornamental features, to King's Stables Road, and filling up the sloping bank on its inner or south side to the level of Castle Terrace. On the plan this terrace is shown decorated with rows of ornamental lamps and trees, and architecturally it forms an admirable base for the hall. The sub-committee were, it is understood, favourably impressed with the amended design, and instructed the Town Council to request from the city architect's department an estimate of the probable cost of carrying it out. The subject is likely to be before the Town Council at its meeting on the 19th inst.

YORK ARCHITECTURAL SOCIETY.

AT a meeting of this Society, held on the 7th inst. at the Victoria Hall, York, Mr. Thomas Monkman (president) in the chair, Mr. Robert P. Oglesby, of Leeds, read an interesting paper, having chosen as his subject "The Life of Sir John Vanbrugh, Dramatist and Architect," who lived about the end of the seventeenth century, and who obtained instant success as a dramatist with "The Relapse," which was produced at Drury Lane, whilst his wit was a sure passport to high society. Voltaire referred to him as the gayest, as Walpole considered him the best writer of dialogue, and he was allotted a high place amongst the dramatists of the time. As a comic writer he was always straightforward, cheerful and robust, something between English and French, without being over nice or giving too much praise to virtue as a convention. He leant towards the virtues which are sound and healthy, and will always remain such. Of feeling, in the sentimental sense, he possessed little, but his plots were always interesting and free from complexity. A number of specimens were given of Sir John's amusing dialogue, and the writer passed on to the consideration of his career as an architect. Not the slightest evidence, he pointed out, could be found of any previous architectural education or even inclination which would account for the transition from the drama or warrant his being trusted with schemes of such magnitude as fell to his lot. There was a slight overlapping of vocations, inasmuch as his first completed architectural work was a theatre in the Haymarket, and his sudden leap from drama to architecture was taken as a glorious joke by his brother wits and littérateurs.

In the year 1702 Sir John was engaged with the design and erection of Castle Howard, Yorkshire, for the Earl of Carlisle, this being his first great scheme. "His want of training," said the lecturer, "is here observable on all hands, but his genius for the picturesque atones for many defects. He seems to have regarded his buildings as so much material for scenic effect at the sacrifice of all suitability for their purpose." Though Vanbrugh had his detractors—chief of whom was Walpole, who said he lacked all idea of proportion, convenience and propriety—he had nevertheless stout adherents, amongst them Sir Joshua Reynolds, who said, "In the buildings of Vanbrugh, who was a poet as well as an architect, there is a greater display of imagination than we shall find perhaps in any other." The plan of Castle Howard was a blending of the Palladian and Elizabethan. It contained lengthy corridors, and hardly one fine room. The west block was not completed as originally intended, but was afterwards built (1763) by Carr, of York, the architect of Harewood House. The south front was perhaps the most graceful example of Vanbrugh's work. He cared nought for rules, as might be seen by the varying height of pilasters belonging to the same order. The vases, terminals and busts assisted in breaking up the sky-line, and gave at a distance a castellated effect to the building, and the severity of the north front was much relieved by the use of sculpture. Here was to be seen one of the segmental arcades which was absent from Carr's wing.

"The Ionic Temple," the writer continues, "with tetrastyle porticoes, at one end of the terrace is again the stalking-horse for urns. The interior is built with marble, and the dome and porticoes do not seem to be on very intimate terms with the main body of the temple. Nicholas Hawksmoor, who was responsible for the mausoleum, has in this case allowed Vanbrugh's influence to pass him by, and produced a scholarly and reserved effect. Horace Walpole jocularly remarks that the mausoleum at Castle Howard would tempt one to be buried alive. The bridge over the lower part of the lake, with its enormous keystones, is a good example of Vanbrugh's passion for ponderous masonry. Passing to the interior, the hall is 35 feet square and no less than 77 feet high to the ceiling. This height, so out of proportion to its area, gives it a dreary and tunnel-like appearance. It contains a somewhat exuberant Rococo mantel. In such a confined space the height of the column seems enormous. Here we catch a glimpse of one of the staircases which flank each side of the apartment, which contains coarse decoration by Pellegrini The chapel is contained in Carr's wing, and was decorated by Kemp. The Earl of Carlisle was so pleased with Vanbrugh's design that he created him Herald Clarencieux, King at Arms. This gave great offence to his brother heralds, in the first place because he knew nought of heraldry, and secondly because he laughed at it. The long corridors and high rooms made the Earl anticipate a draughty house, but Vanbrugh satisfied him that on the stormiest night 'not one candle wanted to be put into a lanthorn,' and that the building did not require above one pound of wax and two of tallow candles per night to light it more than the Earl's London house."

The leading features of the many mansions designed by this famous architect were dealt with, Grimsthorpe, Lincolnshire, being referred to as considered by many people to be Vanbrugh's best work. His greatest, however, was Blenheim, erected by a grateful nation for John Churchill, first Duke of Marlborough, the said grateful nation omitting to provide the necessary funds. Though Wren actually made a plan of a portion of the building, and was then at the zenith of his fame, he was passed over in favour of Vanbrugh, whose influence at Court was paramount. Here was his lifetime's opportunity to stagger humanity, and the plan of Blenheim at once stamped him as a man of powerful imagination. It bore a certain similarity to Castle Howard, but the quadrant-shaped wings formed façades to suites of rooms instead of being treated as open arcades. The building was essentially commemorative and monumental, and the convenience of the inhabitants, or the fact that the distance separating the kitchen from the dining-room was several hundred feet, in nowise disturbed the architect. Some idea of the size might be gained from the fact that the total extent of the park front was 850 feet. It had been said, and he thought with truth, that "no mansion has such a grand appearance as Blenheim," and Vanbrugh accomplished the work under more trying circumstances than perhaps any architect had had to contend with. Vanbrugh married rather late in life He wrote:—

"If I am going to make a blunder it is better to do so at the end of one's life than at the beginning of it" His wife was a daughter of Colonel Yarborough, of Heslington, near York. In a letter on the subject Lady Mary Wortley Montague said, "You know Van's taste always was odd. His inclination to ruins has given him a fancy for Mistress Yarborough" This delicious epistle, said Mr. Oglesby, written in her ladyship's twentieth year, gave us some idea of the state of contemporary society. The actual workmanship of Blenheim was admitted to have been admirable. One writer remarked that, "So perfectly was the work carried out that it is possible to look through the keyholes of ten doors and see daylight at the end, over 300 feet away." Very great were Vanbrugh's faults, but notwithstanding his glaring want of refinement and taste, he possessed valuable qualities, and, had he lived longer, would no doubt, by further study, have become a really great architect. He certainly conceived all his buildings as a whole and in relation to their surroundings, and the general mass of each had been acknowledged to be grand and imposing.

The latter part of the lecture was illustrated by limelight views, and at the conclusion the author of the paper was very heartily thanked.

SOME EARLY PAINTERS.

THE first lecture of his course as Professor of Painting in the Royal Academy was delivered on Monday by Mr. George Clausen.

Mr. Clausen said he felt the difficulty and complexity of his task, for he could not review so wide a field as the history of painting, and his hearers had such information readily available in the public galleries, at the Academy, Winter Exhibitions, and through literature, for critics had explored perhaps even too much, though many thanks were due to them for doing what no practising artist could do. The pre-Raphaelites had taught a knowledge and appreciation of the early painters, and that extraordinary genius, William Blake, might stand as the first P.R.B., for in his writings he had warmly praised those before Titian and Correggio, whom he called smudgers and daubers. Many things made it difficult for students to feel their way, but he would help them if he could, and his mission was to train the mind, for this would put them on the track, when out in the world, how to exercise hand and eye which were trained in the schools. Theory and practice went hand in hand. The tradition of fine workmanship was practically lost, none attaining now the delicacy of execution seen in fine old paintings. An impression confused and chaotic arises from our big exhibitions, in spite of good work always found in them, for everyone is a law unto himself, instead of being under direction such as the Church gave of old. But the relation of artist and public is much the same, and with the thoughts of great men made visible, personal thoughts should be set aside and theirs be interpreted. The work of early masters still charms, but recent work loses its freshness in a few years. He did not advise systematic study of a long period ended with "Thank goodness, that's done," but advocated thorough inspection of a gallery, as if searching for the face of a friend in a crowd, and when a picture specially appealed to them to try and see all they could from the same hand. Their own library and the British Museum Print-room would serve them in this. Mr. Clausen took Fra Angelico and Masaccio as his subjects, and threw on the screen some photographs of frescoes by each of them. These showed the simplicity, and what he might call childlike awkward grace of Fra Angelico's figures, in which we were not conscious of the model at all, therefore he might rank as "ideal," whereas Masaccio (who was presumably one whom the gods loved, for he died young) was a realist, being the first to give relief—depth—to figures, by light and shade, whereas Angelico's delineated only length and breadth He pointed to the purity of line and essentials of drawing in a bust by Masaccio, that any sculptor could model from, and to the modelling and drawing of some heads in a fresco group that were as complete and modern as if done the day before yesterday. The charm of these early paintings lay in the impression conveyed of honest, simple life, as if men were little lower than the angels—though it was doubtful if they were It was doubtful, too, whether any later men have given light better than in some of the examples shown or alluded to, though there were no shadows, for when shadows were seen trouble began. There were masses of rich colour, beautiful plain passages and intervals of highly wrought goldwork to which one could go again and again with delight, and yet such things were, probably, painted in the cloister, where light came from the side only. This should be remembered by those who think they can make a good life study if they have good lighting and good models, for conditions of fresco-paintings in chapels forbade the use of models, and frescoes had to be done straight away, therefore must have been completely planned in advance, thus training the mind; and it was the right training, for an artist should not just retain impression from model to canvas, but go elsewhere, and yet make his impression patent to others. Mr. Clausen considered an unfortunate distinction was made between decorative and pictorial art, for pictures should be decorative wherever they were placed, and that the Old Masters never forgot. He alluded to Pompeiian wall-paintings, Da Vinci's *Last Supper*, and other works to show how architecture was combined to form part of the picture with the intention of bringing the onlooker into the actual scene.

NOTES AND COMMENTS.

Some illustrations of the "Odyssey" by Friedrich Preller are to be found in one of the volumes of *The Architect.* The painter, who died in 1878, early in life came under the influence of Goethe, who gave him much counsel about his studies. At the time Preller was supposed to be a landscapist, and on visiting Italy he was advised by the great poet to study Poussin and Claude. For, as Goethe said:—"It is the same with an artist's education as with the education of any other talent. Our strong points are in a manner formed by themselves, but those germs and dispositions of our nature which are not within our everyday tendencies, and are consequently less powerful, demand particular attention and fostering care that they, too, may become strong and flourishing." It was a practice of Preller's to make drawings of single trees, cottages or rocks, but Goethe maintained that in nature no object is isolated, each is connected with something else, and a drawing of an oak by itself does not produce the effect of the original. Preller profited by Goethe's advice, and his Homeric landscapes have been prized by his countrymen. He also produced figure paintings of heroic subjects, sometimes in connection with Bonaventura Genelli, who was a native of Berlin. One of the most interesting of their undertakings was the "Roman House" of Leipzig. The building is to be removed in order to improve a street, and the fate of the paintings is apparently destruction. Some lovers of art in the city and in Munich have endeavoured to save them. They were able to obtain permission to remove the paintings which were executed on the plaster. It is believed, however, the material is too thin to allow of transferring. A few fragments may be rescued to serve as evidence of the manner of treatment, but the Roman House and its Classic pictures seem doomed to perish.

The Ottoman Museum owes much to German explorers, of whom there seem to be legions. Among the most recent fields are inscriptions and other relics from the site of the ancient Sidon, where the digging was conducted by Macridy Bey. The principal building was the Temple of Esmun. Some of the large stones evidently served as foundations for houses at one time. The masonry is so well dressed in parts it is impossible to introduce the blade of a penknife between the courses. It is believed the temple was over 60 feet in height. Fragments of offerings were found in abundance. Some bear Phœnician inscriptions. There are broken clay figures in Egyptian style, and pieces of marble figures, mostly of children, which are supposed to be Greek. The site was evidently explored in an early age, and that explains the absence of objects in gold or silver. A small staff of gold is the most precious discovery. It may have belonged to a statue of Æsculapius. In another place were found figures of the goddess Astarte. One shows her with a snake on her breast, and this would suggest a reason for the peculiar manner of suicide selected by Cleopatra.

If Frenchmen are not acquainted with the names of their celebrities it is not the fault of the sculptors. The smallest town is able, if the money is forthcoming, to furnish a subject for a statue. One of the latest projects is to erect one of Bertrand de Born in Perigueux. His name may be unknown to the majority of Englishmen, although he was not without influence on English history. He wished to seize his brother's estate, but Henry II. was a power in Provence, and prevented him. Accordingly Bertrand endeavoured, in return for what he considered a wrong, to keep the king in a state of trouble. He divided Henry from his son Richard, and brought variance between him and the French king. He was at war with all the nobles around him. Dante found a place for him in his "Inferno," and represents Bertrand as appearing with his head in his hand. He informed the poet that he was punished because he gave wicked counsel to King Jean, and armed the son against the father, like Achitophel with Absalom and David. This wicked man was likewise a renowned troubadour, and among his poetry is a war song, which concluded with a challenge to Cœur de Lion. After a life of warfare there was nothing unusual in the twelfth century in his entering a monastery, for such violent contrasts were in keeping with the manners of the time. He died among the Cistercians. After seven centuries, it is remarkable that efforts should be made to revive an interest in so strange a character. But if Germany celebrates her belligerent Minnesängers, why should not France uphold her Troubadours?

ILLUSTRATIONS.

CATHEDRAL SERIES.—CHESTER: TOWER, FLYING ARCHES AND BUTTRESSES.

HOUSE AT BANSTEAD, SURREY: DRAWING-ROOM.—BILLIARD-ROOM.

MIDLAND HOTEL, MANCHESTER: TERRACE AND GARDEN.—OCTAGON COURT.

MARKET DRAYTON.

Market Drayton is an ancient town situate in the north-east corner of the county of Salop. Through it runs the little river Tern, which for some distance forms the boundary between Shropshire and Staffordshire.

The name Market Drayton serves to distinguish this from a score of other places called Drayton. It is also known as Drayton Magna, one of its ancient suburbs being Little Drayton. Legally and officially, however, the town is Drayton in Hales.

The place and its name, it is fairly certain, dates as far back as Saxon times, for Nennius, a monk, of Banchor, in his history of the Britons, speaks of Cair Draithon, and the name is mentioned by other early writers.

It is conjectured that Market Drayton had an existence in Roman times, and that it was actually the Mediolanum to which several other places also lay claim.

There was, however, without much doubt a Saxon settlement here, as also at the neighbouring villages of Adderley and Mucklestone. The Domesday Book tells us that the manor of Draitune was held by William Pandulf, and before him by one Godwin, a freeman. The land in cultivation employed eight ploughs. There were here two herdsmen, a priest and two farm labourers.

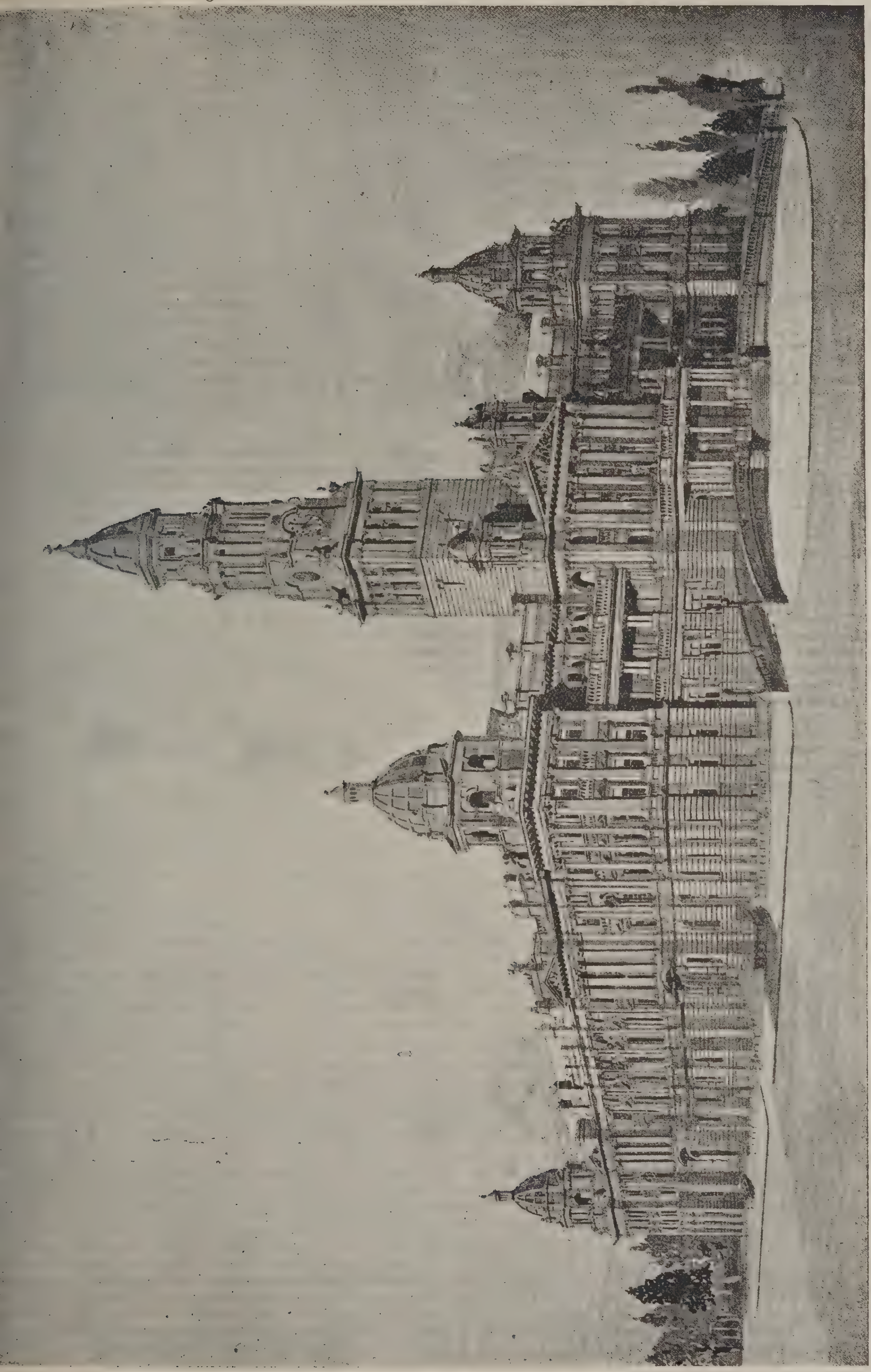
The development of the place in Mediæval times was in a great measure due to the abbey of Combermere, which was just over the border in Cheshire. It would seem that Pandulf made over the manor to the monks of St. Ebrulf in Normandy. From these monks it passed over by purchase to the abbey of Combermere. The abbot applied to Henry III. for a charter entitling him to hold market for the sale of wool and other produce from his granges and tenants. This was granted in 1246, and the place became a market town, and came to be called Market Drayton.

At the present day many relics of Mediæval times are to be observed in the town. Old half timbered buildings are fairly numerous. The drawing accompanying these notes is fairly characteristic, and shows the ancient, massive and imposing tower of the parish church of St. Mary. A tradition lurks in the place that Clive, the great Indian soldier, whose family lived in the neighbourhood, when a reckless youth, climbed the exterior of this tower from bottom to top.

The town also retains some of its old customs as well as old buildings. The ancient court leet is held occasionally, the town crier exists, and the curfew bell is rung. Altogether the place is full of interest architecturally and historically, and affords scope for study.

CRANSTON'S KENILWORTH WAVERLEY HOTEL.

The building at the corner of Great Russell Street was erected for Sir Robert Cranston, of Edinburgh, from the plans of the architect Mr. George Waymouth, of 23 Moorgate Street, E.C. It contains some 200 bedrooms, large dining-hall, lounge and fine reception-rooms. The building was entrusted to Messrs. Howard & Co., of Covent Garden, and was completed and opened within eighteen months. The elevation is in brown Portland stone and red bricks with Aberdeen granite portico. The construction of floors, partitions and staircases is on latest fireproof principles. The building is seen well from Oxford Street and Shaftesbury Avenue, and is on the Duke of Bedford's estate.



FIRST PREMIATED DESIGN FOR TOWN HALL, DURBAN. BY MESSRS. SCOTT, WOOLOCOTT & HUDSON.

DURBAN TOWN HALL.

THE importance of Durban can hardly fail to grow. The Town Council, realising the necessities of the future, decided on the erection of a building which would serve for the combined purposes of a town hall, public library, art gallery and museum. Plans were sought through competition. The Town Council reserved the right of selection to themselves, without any aid from an assessor. The first prize was awarded to a design by Messrs. Scott, Woolocott & Hudson, the second to Messrs. Wells & Ing, the third to Messrs. Ewen, Harper & Brother, the fourth to Messrs. Street Wilson & Paton, and the sixth to Messrs. Aldwynckle & Co. There is some confusion about the fifth prize. The *Colonist*, of Durban, says :—

It is not surprising to find dissatisfaction among the burgesses at the prospect of having a new municipal building unblessed by expert approval. Were Durban the Transvaal this difficulty might be overcome by popular vote, but even then differences of opinion would arise, and the issue would not be simplified. But for the fact that the members of the Town Council are not experts in affairs architectural, little fault can be found with the manner in which the award was made. Ten councillors were present, and of these ten, it is said, nine voted in favour of the accepted design. The voting was by secret ballot, and the verdict was almost unanimous that the plan, then known as No. 5, now known as No. 1, was far and away the best of all those submitted. With regard to the second and third awards there was less unanimity. At present, of course, nothing is decided save the fact that a new town hall will have to be built. This being so and the Town Council having made a provisional selection of a plan, why not expedite its execution as much as possible? The question of cost is not insurmountable, as the approved plan admits of most convenient subdivision.

On the other hand, "An Architect," in the *Natal Mercury*, from which we take the illustrations, says :—The order in which the plans ought to be placed, if merit is to decide, is as follows :—

1. Ewen, Harper & Brother; Mitchell, Raine & Payne.
3. Scott, Woolocott & Hudson.
4. Wells & Ing.
5. W. Street Wilson & Paton.
6. Aldwynckle & Co.

The same correspondent offers the following criticism on the first design :—

On examining the plans, beginning with the first premiated design, by Messrs. Scott, Woolocott & Hudson, of Johannesburg, one is at once disappointed with the bad proportion of the various parts, with the weak attempt to follow the principle of the Renaissance style, an ugly tower being a prominent feature in the design, which does not group at all happily with the small turrets at the base and the large central feature. The same may be said of other parts of the design as to grouping, &c. The main approach to the hall is up a sloping way, giving a rise of 1 in 13, counting the number of steps shown on the perspective; the steps, by the way, do not agree in the perspective drawing with the number shown on plan, for obvious reasons. This steep sloping approach terminates in a portico of poor and weak dimensions The other entrances are all spoiled by the number of steps to each, being far too many for this country (and unnecessary), which, of course, are accounted for by the way in which the ground floor is raised, to give a greater appearance in height to the building, which lofty appearance is further increased by the position in which the horizon line is taken in the perspective drawing. The perspective drawing itself brings out the coarse detail and poor proportions of the whole design; the designers might have been more exact in their drawings and shown the roof to the picture gallery on the back elevation, this, of course, being omitted to give a symmetrical appearance to that part. To turn to the plan, the scheme has been arranged on the three-block system, which evidently has taken the fancy of the Council and been the chief point in favour of its acceptance. What would have been a good entrance to the town hall has been spoilt by the number of pillars shown on the drawings; these would make the traffic very much congested at this point. The corridors are not at all well arranged, there being too many corners, and the supper-room being nothing less than a corridor, broken up in an unnecessary manner. This room would be totally unfit for banquets, &c. In the town hall itself, the seats ought not to be placed twenty-five in a line. In order to facilitate a quick exit, the seats ought to be arranged with more aisles between them. Coming to the platform, the space for the orchestra is ridiculously small, and other weak points in the plan are the entrances to lecture-room, artists' room, &c, with the arrangement of the rooms themselves and approaches to the platform. Why the four lavatory basins are placed in the lecture-room is a mystery; perhaps they are meant to make up for the deficiency of these adjoining the main cloak-rooms. Having to pass through the main hall to get to the boxes on the far side of t hall is decidedly objectionable. In the municipal offic block the grouping together of the various departmen has been carefully considered, but in the basement t chemical laboratory shows no fumes closet, no provisi having been made to deal with same. The corridors here a drawing office are badly lighted. On the first floor t council chamber, mayor's parlour, &c., might have be arranged to group together for reception purposes. Passi on to the museum, library and art gallery block, this sectio appears to have received the least thought and attention. order to get to the reference library, one has to pass throug the lending library; provision should have been made to g direct to this room from the entrance hall through a do under the control of the librarian. The reading-room oug to have been divided up into news-rooms, dailies, weeklie monthly magazines, &c. The museum on the first floor better arranged, but the art gallery, particularly the circula room, will be of little use for hanging pictures; what is wante is plain wall space, not niches or recesses, as shown on th drawings. To go into the National Gallery or Royal Academ one would find rooms with plenty of plain wall space, void unnecessary features. On this account the bulk of the wa space would be wasted, consequently throwing away valuab floor space. In passing one might mention that no hoist shown for pictures to the art gallery.

SCOTTISH BEEHIVE DWELLINGS.

AT the meeting of the Society of Antiquaries of Scotland o Monday Dr. Robert Munro gave an account of som primitive stone dwellings of the beehive type discovered b Mr. R. C. Haldane, of Lochend, near North Roe, in th northern part of the mainland of Shetland. In consequence o the interesting discovery by the Hon. John Abercromby tha certain walled enclosures were associated with undergroun dwellings, it was desirable that Mr Haldane's discover should be placed on record for comparison. In 1902 Dr Munro visited the site which Mr Haldane had partially investigated, and saw it more fully excavated. The visibl remains consisted of an irregular circle of rough stones locally called the Giant's Garden, enclosing an area of abou 30 paces in diameter. On the north-west margin Mr Haldan recognised the ruins of four underground huts. Of these thre were found to communicate with each other, while the fourt was isolated. Inside the enclosed area and adjoining the spac occupied by the huts there was a horseshoe shaped wall including a space of 14 by 16 feet, from which traces of a passag into the first of the three connected huts were found. The largest of the huts was 7 feet in length, 4 feet in width and about 5 feet in depth. The walls were built of dry stones o moderate dimensions, but the roofs had fallen in. No relics were found in them, and the conclusion was that they were the habitations of a pastoral family, while the large circular enclosure served as a pen for their cattle. About a mile west of this place, on the north shore of the Broer Loch, is a small oval mound covered with peat and heather. When excavated it was found to contain a central chamber 9 feet in length by about 7 feet in width, access to which was obtained by a passage about 5 feet long and no more than 20 inches wide. From the central chamber four elongated recesses branched off irregularly into the thickness of the wall, which was about 5 feet. No part of the roof remained either on the chamber or on the recesses, and no relics were found. A third group of huts, with an adjacent enclosure, was also examined not far off without any definite results, but though the data are insufficient at present for generalisation, the attention of archæologists should be directed to this class of remains.

The Courses of lectures to be delivered at the Sanitary Institute, Parkes Museum, Margaret Street, from February 2 to April 25, will deal with the subjects of elementary physics and chemistry, public health statutes, the practical duties of a sanitary inspector, municipal hygiene, building construction and meat and food inspection.

The Board of Education, in co-operation with the Council of the Society of Arts, intend during the present year to hold, in the Victoria and Albert Museum, South Kensington, an exhibition of engravings produced by mechanical means, such as photogravure and other photographic processes, as a sequel to the exhibition of engraving and etching held during last summer, and as great advances have been made in printing in colours since the exhibition of modern illustration in 1901, specimens of colour printing will be included. A committee, of which Sir William de W. Abney, K.C B., F.R.S., will act as chairman, has been formed to advise the Board in carrying out the exhibition. All communications should be addressed to the Secretary, Exhibition of Mechanical Engraving, Board of Education, South Kensington.

ROME AS A PLACE OF SCHOOLING FOR A DECORATIVE PAINTER.*

WHAT constitutes the most fitting situation for an Academy of Fine Arts is, that it shall be in the place where the best existing examples for study can be made most acceptable to the student. If you add a background sympathetic to the consideration of the greatest art you have an ideal environment.

Rome unites these conditions as does no other city. She unites them within her own walls, and again, better than any other town, she fulfils the further and important condition of being central, a pivot upon which a relatively short radius of travel may sweep Athens, Cairo, Constantinople, Paris, London, Madrid, putting at the service of the student the Greek fountain-head of art, the Roman development of Greek methods, the Byzantine evolution, its succession in Oriental and Occidental art, the Mediæval and contemporaneous art of France, the collections of Vienna, Munich, Dresden, London, Madrid.

No other world-city is so central to all these capital points as Rome; while Magna Græcia opens away from her very gates, the hills of Etruria may be seen in panorama from the cupola of St. Peter's, and Sicily, distant but sixteen hours' journey, offers the remains of three civilisations—Greek, Arab and Norman. It is through the peculiarity of her historic evolution that Rome became and remains the natural art centre. She alone of all cities has twice held the headship of the western world, under the Cæsars and under the Popes, and thus has twice received the willing service of the arts of antiquity and of the Renaissance.

Her determining fortune was that she should be not a fountain-head, but a reservoir, and thereby the art cosmopolis of all time. In this cosmopolis the founders of the American Academy propose to place their pupils to learn the lesson of the city and the circumjacent world which for 1,500 years was tributary to that city. They believe that this lesson will in the end be more profitable than even the one taught by the great annual exhibitions of Paris and contemporaneous Europe.

The lesson of Rome and Italy is more useful because it is broader, because it is less tumultuous and more serene, because instead of emphasising sharply one phase of thought, it offers the development of a chain of thought—above all, because it enables the pupil to realise that the present is not the ultimate thing which it has seemed to him; that not the art which dazzles, but the art which shines enduringly, is to be sought; that all achievement lapses into some other achievement which is not yet nor ever will be final; that the finalities are not the painted walls themselves, but the conviction, earnestness, perseverance which have gone towards their painting, and which are eternal qualities that shall go on for ever evolving a better and a higher order of work. This confrontation of the pupil with the best art of all times, together with his claustration from the ephemeral and from all which has not proved its title to endure, is the prime object of the Academy, and lies at the core of our educational problem. Sequestration from the ephemeral has, in the idea of the founders of the American Academy of Rome, been almost as important as access to the best examples of work. The history of art shows us that the sum of each individual artist's achievement is made up, first, of what he gets directly from nature as seen by himself through the medium of his own temperament; secondly, of what he gets from the work of other artists, whether forerunners or contemporaries—that is to say, from nature again, but from nature as seen through the eyes of other men.

A few great geniuses have been relatively little affected by other artists' work; other great geniuses have been powerfully influenced at many stages of their careers—witness Raphael, Rubens, Tintoretto—yet by the overwhelming personal force of their assimilativeness have each remained *sui generis*. But hardly any individuality has been strong enough to be unaffected by the art of others.

When we say that Donatello and Michel Angelo felt outside influences, nothing is left to say further. Therefore if our pupil whom we would wish to see a great artist is sure to be acted upon by the art of others, it is desirable, and all the more desirable in proportion to his intrinsic worth, that at some time during the period of his education he should be removed from the disturbing influence of any art save that shown in the best examples Here lies the main reason for sending such a man to Rome for a period of at least three years, instead of permitting him to complete his art education in Paris. Here, too, is the reason why the founders of the American Academy in Rome insist that their course is and always must be a post-graduate one. They wish to start with a technically-equipped painter; they do not want a raw pupil; they do not propose to take a beginner to the Vatican, to blindfold a man lead him thus and at once into a paradise of the greatest art, for fear that, once the bandage taken from his eyes, he could never find his way back alone to the common things of life which good art must take well-considered note of on its way to the higher ground.

The ideal pupil would be he who was an already an experienced artist when he entered the gates of the Villa Aurora, but under any circumstances he should have passed through two phases at least. First, he should know the spelling and grammar of art. For the achievement of this study of living models under good masters and among emulous fellow-pupils suffices, whether the student be in Chicago, Paris or Finland. Next, he should have seen enough of modern art and its tendencies to safeguard him from such conservatism as could harden into archaism and quench the vital spark in his artistic temperament—as should convince him, in fact, that he must bring something with him to Rome there to grow in strength, and that he is not to expect to find his all there. He is not to steal the sacred fire from the altar of antiquity, but is rather to comfort and feed at it that particular spark which is his individual allotment by inheritance after it has passed down the centuries and through generations of temperaments of his own people

Therefore it is good if he be familiar with the exhibitions of Paris and New York, with their art shops, books and periodicals, their current art ideas and changing fancies. He should mix with all this life, but at some time during the earlier and more impressionable part of his career he should be taken from New York or Paris and set down in Rome; and this not because it is Rome instead of Paris, but because it affords a wider horizon to the pupil who is entering his ultimate phase of student life.

In Paris, too, there is a splendid background of effort and achievement, of force and restraint, spontaneity and culture, of Mediæval sculpture, of architecture, classic already yet native to the soil, of art of all kinds, but, and here is the relative disqualification, the background in Paris is confused by the foreground. We have said that the horizon in Rome is wider; it is, above all, clearer; in Paris the clouds that pass across it often pass rapidly, and sometimes dissolve under our very eyes. A great personality makes itself felt, perhaps suddenly; it is not sufficiently removed from us that we view it undisturbed and as a fixed luminary; it dazzles but does not warm us, and the hundreds of young men who are swept into its sequence are but the tail of the comet. We who have frequented the Paris exhibitions have seen scores of huge canvases directly inspired by Puvis de Chavannes, every one of them a flat failure, where the imitators thought, for instance, that if for Puvis's nymphs they substituted peasant girls and men raking hay, they had made something realistic and personal to themselves. Again, Bastien Lepage, Besnard and dozens of other masters have so appealed to beginners that the latter have wasted years in fruitless imitation. You may say that a man with a really vigorous personality will eventually win clear of the personalities of others; even so, eventually, but why not endeavour to shorten his period of probation, why not let him have his primary-school education in the *atelier d'élèves* of Chicago or New York, his university education in the studios and exhibitions of New York and Paris, his post-graduate course in Rome?

After he has seen and noted something of the modern struggle, set him upon the vantage point of the Monte Pincio and let the centuries do the sifting for him. In the contemporaneous struggle of Paris he will have seen A, B, C and D working, all artists; he will have watched them, learned from them useful things indeed, and modified his technique, perhaps, to his advantage, but he will have been hindered, too. A and B will have been brilliantly successful. Crowds will have paused before their work. Our pupil, wishing to be successful also, will have seen his opportunity in theirs and will have tried to imitate them, or, worse still, will have imitated them without trying, and yet by his temperament he may have been wholly unsuited to anything along the lines of A and B. C and D's lines were perhaps those suited to his following, but he did not realise the fact, for these men were in the shadow still; their turn had not come and his dazzled eyes did not perceive them at all. But take our student away, place him in Rome, as we said before, let the centuries do the sifting for him and he will see that in the long line the turn comes also to C and D, that the same kind of laurel wreath does not fit all heads and that all work which is truly good forges to the front, and remains there irrespective of individual praise or personal affinity. And the uses of personal affinity also will be made known to him in full. No one ever heard of a modern man being hurt by closely studying Raphael or Rembrandt, Rubens or Velasquez, Michel Angelo or Titian. Why? Because, do what we may, we cannot reproduce the conditions under which they worked. In their own time they did precisely the same harm to hundreds of weaker personalities that comes to-day to the pupil who too closely imitates his master; hundreds of artists were but pale reflections of Titian. Raphael, Correggio and a whole generation of men grew frigid in the shadow of Michel Angelo's over-topping genius. But the conditions of their epoch have passed; the temperament of the modern artist is necessarily a part of his time, modern; with him it is no longer an affair of the imitation but of the inspiration of bygone art. And so in Rome, sheltered from commercial cares, unhurried, with time for thought, and with the succession of the arts spread out before him with all their problems, our pupil will gradually select those to whose solution he is best fitted. His personal vision of nature through his own artistic temperament will be attracted to what is most akin to it in the art of the past; he will supplement his own observation, prove it, clinch it, strengthen it, develop it and even adorn it from the experience of other men, and his personal experiment plus this inherited experience will become culture.

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* A paper by Edwin H. Blashfield, read at the thirty-seventh annual convention of the American Institute of Architects.

And this above all is what we need at present in American art culture: a standard of taste and men capable of upholding it, not culture buttered on thinly over the utmost possible extent of ground, for we have almost, already, too much of the kind of culture which sets up the Winged Victory of Samothrace in her room windows and furnishes penny prints of the Sistine Madonna for children to cut out with the scissors and paste upon box tops. Such is all very well in its way, but we wish for culture that goes deeper, and teaches us why the Niké of Samothrace and Our Lady of San Sisto are thus popularised and called to the uttermost ends of the earth. In a few words, what we wish above all else to create and store in the villa of the Roman school is leaven.

And within but a little distance of its garden gates there is inspirational leaven abundant for the accumulation of architect, sculptor and painter. To the mural painter, Rome is indeed *caput mundi* and Italy the land of lands for him as specialist; what lies north of the Alps or south of Sicily is relatively little for him, mural painting in its entire development is to be visited within the boundaries of Italy from the panel of the wall-painter who worked for Livia Augusta down to John Baptist Tiepolo, painting periwigged goddesses upon church ceilings, at a time when our grandfathers were preparing for the Revolutionary War. It is all within a day's railway ride of the city of Rome and its culmination is within the city itself.

As we said before, Rome was not a fountain-head of art but a reservoir for its accumulation. She gave to the world organisation, administration, Roman law, Western Christianity; these were her own; they sprang from her, art she called to her. At first she beckoned with no very gentle hand, bringing the muses as bound trophies of her wars with conquered Greece. But soon she was captured by her captives; if she stole their columns and statues from the Greeks, on the other hand, she went to school to them, while a little later the imprisoned muses were unbound and domesticated as Virgil, Horace and Catullus ushered in the Augustan age. If Rome's eclecticism was tyrannous it was also enlightened, and she gradually learned to neglect little that was worth taking. Should the American student of the Villa Aurora go to-day down to the Tiber side to the place where were once the antique wharves for the delivery of marbles he might find, if he dug deep, fragments of the contribution of nearly every one of the countries which now make up the curriculum of his art travel, since even Britain, if she gave little marble, sent Cornish tin for the helping out of metalwork.

Within the city the student can find the path of his own special art of decoration plain to see and follow for fifteen hundred years, just a broad Roman road along which the spoils of Greek art are carried in triumph and planted as trophies, then lined by Christian basilicas whose pontiffs begin to rival the Cæsars, then narrowing from a road to a Mediæval path, but still plainly discernible by the light which the Cosmati and the mosaicists shed upon it, then traversed processionally and consecutively by Giotto, Angelico, the painters of the fifteenth century, last by Raphael and Michel Angelo, bringing to the palace of the rulers of Christendom the culminating achievement of modern decorative art.

This cloud of witnesses upon the walls is waiting for our young men to come down the hill to it from the villa, for from our point of view as founders of the American Academy in Rome, it is for our young men that all these things have been done, to them that the centuries have brought all these gifts. Whatever our pupils wish to know about mural painting, they have but to ask; somewhere, within a day's ride at furthest, the answer is waiting for them; somewhere the problem is solved, whether in Rome itself or in some mountain town or city upon the north-central plains of Italy.

Are they puzzled about scale of figures or ornament, they may go up and down the churches and find that every experiment has been tried and offers its results, from the famous six-foot pen with which St. John writes in the cupola of St. Peter's to the beautifully calculated scaling of Pinturicchio's figures of the Borgia rooms.

Have they a mosaic to compose, they may breakfast in Rome and, before the daylight fails may study in the dim interiors of Ravenna the most solemn mosaic colour in the world; or should they wish to supplement their observation with a greater if more cloying richness or with the glitter of lighter church, they may leave Rome at midday, and next mor ing in Palermo visit the mosaics of Cappela Reale of the Norm kings or drive out to Monreale. Should they wish a pulpit, pavement or a wall pattern, the basilicas of Rome lie all abo their Villa, and the Cosmati are awaiting within them. (should they have a Gothic church to decorate in fresco, aga they may take their railway ticket in the morning, and in t afternoon at Assisi may visit what to muralists is perhaps t most interesting ecclesiastical building in Europe, the trip church of St. Francis

There they will find laid down already in the fourteen century all the main lines proper to mural painting, and if th drive across the valley to Perugia shining upon the opposi mountain side, a dozen miles away, they may study there t precepts of Giotto, applied to the new forms of the revival b Perugino in the Sala del Cambro Or, if the question for the consideration be that fascinating and far-reaching one of th application of gold in decoration, they may find their proble resolved in a thousand different ways on both sides of th Apennines. Is it to be profuse and profound in its enrichme and in juxtaposition with strong colour, they may find it in th marvellous Borgia rooms of the Vatican. Is it to be rich an gay at once, and brilliant with a basis of white, they may loo for it in the Libreria of Siena, again with Pinturicchio as the guide. Do they wish it in great flittering masses in a ligh church, they have Monreale; will they take it with chocolate colour and meerschaum marble, they can visit San Marco o Palermo. Are they looking for it with carved-wood panelling they have the sacristies. Will they have it delicate, pale sparingly used, let them study the churches of Lombardy; d they wish just a dash of it and no more, they may find it a the hands of Ghirlandajo in Santa Maria Novella of Florence Would they gather experience concerning the juxtapositio with polychromatic stone, again they have only to choose they may, like Lars Porsena's messengers, ride east and wes and north and south, they will find examples everywhere o juxtaposition, here with yellow Siena marble, there with the tawny brocatelle of Verona, again with the cold pietra seren of Florence.

The Italians, passionate lovers of the coloured marble have played this game of combination for eighteen hundre years, played it with every procurable natural product of the earth's chemistry from cheapest cipollino to dearest lapis lazuli, and there is no conceivable combination which is not worked out, or at least adumbrated. The direct applicatio of paint and gold to precious marble they may study also in many churches, but, perhaps, best upon the sarcophagi o Verona and in S. Antonio of Padua, while the painted heraldic ornament, which one usually remembers as special to transalpine countries, may be found splendidly exemplified in the town halls of Perugia, Padua, and above all, Pistoja

To the mural painter who so often to-day faces the problem of decorating a light-coloured interior, where pigment and light-grey stone meet, a tour of the churches lying about Milan and the lovely Italian lakes will be illuminating; there he will visit Gaudenzio Ferrari, and in the Royal Palace of Milan in Sant Eustorgio, and in Saronno, close by the Lake of Como, he will believe that he has found the Italian Puvis de Chavannes in Bernardino Luini, that painter-poet of the Lake school of the Italian Renaissance. As he proceeds down the centuries our pupil will note too the architectonic progress and changes of mural painting. He will admire the sober and exquisitely elegant Tuscan system, the subordination of ceiling to walls, the clever decoration of vaulting, the flat-painted borders of lozenge and medallion and interlacing scroll. Then passing northward and to the work of later years, he will see how Correggio and his followers cast architectonics to the dogs and broke through cupola and wall-panel with their figures floating in a free sky. He will follow, too, the tricks of perspective in ceiling or vaulting decoration from Mantegna and Melozzo in the fifteenth to Tiepolo in the middle eighteenth century, and will realise how really tricky such effects are, even in the conviction of those who, like Veronese and Tiepolo, used them most, yet used them least when they desired real beauty and serenity. Again, in following the architectonic succession, he will witness the gradual abandonment of vaulting and fresco, the adoption of great flat ceilings with deep convolutions of gilded wooden or plaster framing as oil-painting and canvas instead of plastered wall obtained in the Ducal Palace at Venice. In Venice, too, he will follow the last and most brilliant development in the chain of Italian art, the development of colour and the beginnings of that manipulation of pigment which had to pass the Alps and wait another century for its ultimate expression at the hands of Rubens, Rembrandt and Velasquez. The student will give his longest Italian visit outside of Rome to Venice, for she can offer him the most after the capital. In Rome he may see all Florence and Umbria upon the walls of the Sistine Chapel and the Stanze of the Vatican, but to know Veronese, Tintoretto and Tiepolo at their best he must visit them in the city of the lagoons or the villas which line the Brenta and dot the Friulian March. With these three great Venetian masters and with Titian, the student will have the complement to Michel Angelo, Raphael and Correggio, and will have surveyed the cycle of Italian decorative painting

We have walked him about Italy in accordance with the travelling rules of the School of Rome, but within that city's limits he can find first-rate examples of most of the great painters, not only of the Italian masters, but even of Vandyke and Velasquez.

Best of all, the city, like most Italian towns, is itself a great decorative *ensemble* : nowhere else will he find such an unending extent of vast gardens, with cypress and stone-pine and ilex, where all the dryads and nymphs, from the antique marble women of the Vatican and Capitol down to the people of Puvis de Chavannes might find shelter ; nowhere else so many decorative fountains with such a glory of running water ; nowhere such broad and massy effects of shadow as come from the piled-up palaces lining some of the steep streets of the seven hills.

Surely there could be no better forcing-ground for the growth of wings upon the attendant muse, no better place for making a poet, if the germ exists, and if it does not exist, if many of the students turn out to be Academic products, why, they too are needed. Perhaps, indeed, they are needed as much as poets in our individualistic America, where we have little time for investigation not directly remunerative, not too much respect for tradition, and are apt to misconceive that if we would have culture we may hustle for it as for a commodity

Belief in culture, respect for culture, knowledge that, in its most beneficent form, it can be acquired but slowly and earnestly, these we need for the forming of such artists as shall leaven the lump of beginners. Great geniuses stand by themselves. They will prove themselves anywhere But great geniuses are exceptional, and it is not for them so much as for the school that we should plan, digging deep, building broad, rearing high, that it may be born to the inheritance of a more thorough education, a completer equipment than could fall to our share.

In Italy have been evolved in the last four centuries nearly all of the different decorative systems from which in its turn the practice of modern Europe derives. Upon these will be based, and from these evolved in a considerable degree, such practice as is most fitted to American needs and American temperaments. Already the School of Rome has shown its first fruits in its annual exhibitions. Before long there will be seen upon the walls of one of our buildings a decorative work exemplifying both the purpose and the achievement of the American Academy in Rome, showing how much wise study of a great past can do for the intelligent preparation of a great future.

DISCOVERY IN VENICE.

THE correspondent of the *Scotsman* says :—Owing to the fall of the Campanile the eyes of the people were opened to the fact that half the houses in Venice were in danger of crumbling into dust Brick walls cannot last, especially if uncared for, for ever, and some in Venice have stood six hundred years. Accordingly the taking down of houses in whole or in part, the strengthening of walls, and in some cases the widening of streets and the supplanting of small tumbledown houses by large new buildings goes on apace. A radical transformation of this latter kind is going on behind St. Mark's Square A whole range of very old houses have there been taken down and a large hotel is about to be erected. At the same time, a comparatively wide street is to be made to relieve the congestion of the Frezzeria to the west of St. Mark's Square, and the Merceria to the east of it. It was whilst removing old foundations in the carrying out of this work at the Bacino Orseoli, just behind St. Mark's Square to the north, that an important discovery was made, which may cast a new light on the early condition of these islands and lagoons before Venice was founded in 421 A.D. by the inhabitants of Altinum, Padua and especially Aquilæa, whose homes were burned in that year by Attila and his Huns. Previous to that time it has always been said that these islands were uninhabited, or inhabited very sparsely by half-civilised fishermen, whose living was rough and precarious. But the discovery just made is a clear proof that the Romans were here. It consists of a sort of tomb, which was covered, found at the depth of 6 feet underground and covered by a stone slab 3 feet 2 inches long and 12 inches wide, on which are deeply cut in large letters the words "Milit : Coorth III R Centuria." And what does the tomb contain? The skeletons of two horses and that of a dog. The bones were piled together in the comparatively small space, but the horses' heads had been carefully placed side by side, with that of the dog between them. Now the sarcophagus discovered lately in St. Mark's was, it may be remembered, a Roman sarcophagus, adapted for Christian burial by the erasion of the pagan inscription on the album on its face, and the cutting of a Byzantine cross on its lid. Again, it may be remembered that in excavating in the Piazza of St. Mark's for the enlargement of the foundations of the Campanile, traces of what seemed a Roman road were laid bare. Now we know that the Romans in order to avoid the pirates that infested the Dalmatian coast, and also to escape the storms that rage at the head of the Adriatic caused by the Bora that blows from the Karse land above Trieste, were accustomed to carry their goods from Ravenna to Aquilæa by a sort of inland route, *via* Padua and Altinum. Between these two places, what is now Venice, lies Padua to the south-west and Altinum to the north-east Apparently, therefore, their route came right through what is now the centre of Venice, St Mark's Square. Of course, the lagoons and waterways, which are now the canals of Venice, were used, but apparently they had roads and horses. The whole subject calls for investigation Perhaps these and fresh discoveries that may be made may revolutionise received notions in regard to the early condition of this place on which Venice now stands, as the investigations and excavations carried on in the Forum are upsetting many received ideas in regard to ancien Rome.

PROFESSOR DONALDSON'S MAXIMS.

(*Continued from last week.*)

Of the Architect.

LXXIV.

THE architect has much to learn, much to feel, much to do.

LXXV.

Let no one in the pursuit of his profession doubt whether he is actuated, as to his motives, by a love of praise, a desire of gain, a passion for art, a spirit of rivalry, or the generous desire to be useful. "Philosophia vero perfecit architectum animo magno, et uti non sit arrogans, sed potiùs facilis, æquus et fidelis ; sine avaritiâ, quod est maximum ; nullum enim opus verè sine fide et castitate fieri potest ; ne sit cupidus, neque in muneribus accipiendis habeat animum occupatum, sed cum gravitate suam tueatur dignitatem, bonam famam habendo. Hoc enim philosophia præscribit"—*Vitruvius*. (Philosophy will teach the architect to be above meanness in his dealings, and to avoid arrogance ; it will make him just, compliant and faithful. What is also of the highest importance, it will prevent an avaricious spirit, for he should avoid the thought of filling his coffers by grasping everything that appears a gain By gravity of manner and confidence in his character, he should be careful to uphold his dignity. Such are the precepts of philosophy.)

LXXVI.

It should be the purpose of the architect to allow no day to pass without adding a sketch to his collection. His motto should be with Apelles, "Nulla dies sine lineâ" "For there cannot be a more baneful error," observes George Moore, "associated with initiation into art than the dangerous dogma that the aspirations of genius need not be trammelled by the labour of study"—(P. 35.)

LXXVII.

The life of an architect is one of continual reasoning ; no two buildings which he may be called upon to design or contemplate can be precisely alike. It requires therefore an exquisite susceptibility, unwearied patience and sound judgment to know in what respects they differ and how the necessary difference should be or has been satisfied.

LXXVIII.

Invention and judgment distinguish the true artist. The critic need only possess the latter.

LXXIX.

The severest discipline of the eye and hand is essential to him who would produce enduring works.

LXXX.

To study aright the monuments of antiquity, the student must first scan the powerfully effective combinations which produce the more striking impressions influencing the feelings and opinions, and then descend to the minute axioms which contribute to the effect of the whole. He must distinguish the transitory and accidental circumstances from the essential and immutable laws of the art.

LXXXI.

The architect has to respond to each sentiment of the human mind. He has to produce appropriate impressions of sublimity, awe, veneration, grandeur, strength, solidity, durability, lightness, cheerfulness, gaiety, comfort, convenience, health. In fact, there is an expressive and deep-feeling poetry in the art, which if a man cannot attain he must not aspire to be an architect.

LXXXII.

To be a good architect one must be a good designer, but a good designer is not necessarily a good architect. Vitruvius distinctly says, "Architecti scientia nascitur ex fabricâ et ratiocinatione."—(B. i. c. l.)

LXXXIII.

Architecture has this distinctive feature from any other department of learning, that it is essentially composed of two divisions—imagination and reason. Deprive it of the element of taste, it assumes the form of a mere mechanical science. Take away its element of sound construction, its flights in the regions of fancy degenerate into wild caprice and extravagance, having no ennobling end or object.

LXXXIV.

How much of truth is there in the casual remark of Woods that "All becomes gold in the hands of a skilful architect, but the finest parts and most exquisite proportions turn again to dross in the hands of ignorance and insensibility."

LXXXV.

Strong impressions are not necessarily correct ones, thereore no reliance can be placed upon the emotions derived from the senses unless confirmed by the reason, but we depend upon our senses, which are at the same time our masters and our ministers. How much caution therefore is necessary in adopting them, for, as Blondel observes in the fourteenth chapter of his fifth book:—"Nous prenons ordinairement pour vraies les choses qui nous paraissent les plus claires et les plus évidentes; sans considérer que cette évidence ne vient souvent que de la facilité que nous avons à les comprendre et à nous les présenter telles par l'habitude que nous avons contractée, à force de les avoir souvent considérées de même manière." (We generally consider those things to be true which appear clear and evident; we should remember that such evidence is often derived from the facility we have acquired by habit to comprehend them from repeated consideration in the same manner.)

LXXXVI.

He cannot improve in his art who is not conscious that he is far from perfection. "I am diffident," said the celebrated James Watt, "because I am seldom certain that I am in the right, and because I pay respect to the opinions of others where I think they merit it."

LXXXVII.

Wotton asks in his usual pithy way, "What are the most judicious artisans but the mimiques of nature?"

LXXXVIII.

But this "mimique" of nature is not to be a plagiarist of nature. Architecture has its conventional laws, and a flower or a leaf even, introduced in a moulding, a frieze or a capital, must be æsthetically modified to adapt it to its application Witness the sovereign skill with which the Egyptian, the Greek, the Roman, the Mediæval artist has created a botany of architecture. The parsley, the acanthus and the vine, engrafted on a column, have by the combination acquired a new development, an imaginative creation of art.

LXXXIX.

"The *beau idéal* is different from drawing because it depends upon the choice of subject. One artist may draw commonplace forms, and such as he usually sees, with perfect exactness. A second may know how to select the most beautiful. A third, by a careful examination of what constitutes the excellence of each part, and by the harmony and correspondence of one part with another, may improve even upon the most beautiful existing figures."—*Woods*, vol. i. p. 431.

XC.

In fact, good taste in ornamentation does not depend upon a mechanical and superficial imitation of any object, but upon a studied observation of natural objects and of the mode in which they can be applied to a purpose totally foreign to their original nature.—*Arch. Egyptienne, Q. de Quincy*, p. 156.

XCI.

He who copies is bound by the letter of the original. He who imitates is bound only by the spirit and essence of the type: for in copying is not the most exact copy the best? But to copy is not to create, and true originality does not consist merely in variation.

XCII.

"It is a sterile fecundity," says Quatremère de Quincy (p. 177), "whose power of production consists only in changing, and changes only in order to appear to produce, without any valid or apparent reason for such varieties."

XCIII.

To copy is the instinct of the mere animal faculty; to imitate is the property of reasoning intelligence. In fact, "the proper use," as Poynter suggests, "to be made of the study of the ancients in their works of art is not to copy, b to endeavour to think like them."

XCIV.

A first idea is rarely otherwise than crude; absolute pe fection is unattainable. But improvement can only be realis by elaboration.

XCV.

A general impression may be correct; a perfect appreci tion, however, of any work of art cannot be arrived at witho thorough study.

XCVI.

"All licence is imperfection," says Laugier, and ve justly, for licence presupposes a departure from good taste.

XCVII.

He who does not feel that beauty is greatly to be desire and that ornament well-applied enhances beauty, should giv up all connection with the fine arts.

The History of the Art.

XCVIII.

No branch of architecture can be properly studied when w limit the consideration to the productions of one country or o one epoch. He alone appreciates the full privilege of his ar who studies the class rather than the individual. Each countr has its illustrations, but the whole world alone contains the ful development, and all ages its entire history.

XCIX.

The history of architecture is not easily appreciable unles we keep in mind certain grand periods and their dominan types, which, as leading features, distinguish each aspect pre sented by the monuments of the several epochs.

C.

He who expects to be a good architect by knowing th history of all the styles, and the phases which it has assume through each period, will find himself much mistaken when h begins to practise. He may be a good historian and judicious critic, but not necessarily a good artist

(*To be continued.*)

TESSERÆ.

English Oak.

IN its leafage the oak is hardly so curious as some other trees, though the vexed question of distinction between the wavy-leaved oak (pedunculata) and the flat-leaved (sessiliflora) turns on the tortuosity and lengthiness of the one as to leaf, stalk and acorn, and the greater compactness and roundness of the other. Selby, Lees and other authorities hold these to be rather varieties than species, and there is a conflict of opinion as to the superiority, in quality of timber, of the wavy-leaved over the sessile-flowering oak. Neither does the oak appear so curious in point of flower as its less kingly forest brethren, though perhaps nothing in vegetable life is more perfect than the developed acorn. The oak's specialty (if we leave out of sight his gigantic timber) seems to be the lordly shelter he affords. To say nothing of birds of every feather, when an oak is felled it is an earthquake to myriads of insects The oak apples, once supposed to be of the nature of fruit, are balls of extravasated sap caused by wounds which a little insect inflicts on the bark of a bud, that she may have where to deposit her eggs. These are hatched about midsummer, and the white grub in due time becomes a winged creature and forces its way out. Of the same origin are oak galls, as well as those curious oak spangles which make a single oak leaf, to an inexperienced observer, look like a genuine fern frond. But the spangle of the fern leaf is a heap of golden and life-giving seed-boxes; the red and green hairs that make up the oak spangle are caused by insects which mar instead of propagating vegetable life. Still more curious are the inanimate guests of the oak—the ivy, which is neither parasite nor epiphyte, for it has its own independent roots in the earth, and draws no sustenance from that to which it clings; and it does not, like epiphytes, rest on the branch of another plant or live on the decaying moisture that accumulates around

Kaulbach's Paintings in Berlin.

The Treppenhaus in the New Museum of Berlin aims, in common with the most pretentious of German revivals, to gain united force through the combined master arts of architecture, sculpture and painting. The structure is designed expressly to receive the decorations, and consequently ornament holds its due place in the concerted whole, and performs just its appointed function and no more. The architecture is perhaps rather mongrel; it is of the scenic and illicit school of Schinkel, who, like Klenze in Munich, has done much both to make and to mar the city surrendered to his genius. The polychrome applied to this architectonic staircase is not, like that in Munich, Byzantine or Mediæval, but is rather allied to Classic and Pompeian styles. Indeed, the single and subsidiary figures which Kaulbach has made to float on a field of chocolate are directly Pompeian in colour as in treatment. As usual the figures on gold grounds tell best decoratively. Altogether the colouring is a success, though, as usual in like German revivals, its relations show more of science and hard intellect than of intuition and emotion; the tones are apt to be crude, hot and yet repellently dead and cold. Still, the whole composition, as if under a strong effort of the reason and the will, has been forced into a not unpleasing propriety and agreement. The painter's object has been—in a series of six compositions, each some 30 feet long and comprising over 100 figures above life-size—to seize upon salient turning-points and to elucidate certain epochs in the world's progressive civilisation. The epochs chosen are the "Tower of Babel," the "Era of the Greeks," the "Destruction of Jerusalem," the "Battle of the Huns," the "Crusades" and the "Era of the Reformation." Kaulbach's free and easy reading of history, and the latitudinarianism of his creed, have in Germany given occasion to considerable cavil. The best apology is that the artist is exclusively the artist; that he is not the divine to teach doctrines and dogmas, but, like Shakespeare or Goethe, the dramatic poet, to seek in the world's history noble characters, stirring action and grand scenic situations. It would be interesting to know what help, if any, Kaulbach sought from the learned professors of the Berlin University. Athenian artists were accustomed to hold close intellectual relationship with the poets and philosophers of their period, and Kaulbach, who in a great measure was a self-made man, could ill afford to sever his art from the critical acumen and profound research which in Germany have served to elucidate, and sometimes to undermine, the very historic "eras" which the painter has portrayed Yet fortunately it is possible for these pictures to be poetically true, though historically false Thus it may be agreeable to the eye and conformable to decorative ends that such compositions should be nicely balanced and evenly distributed; yet it is hard to conceive that historic epochs, such as the overthrow at Babel, the recitations of Homer or the preaching of Luther, could have invariably been enacted in a circle Painting in a circle, like arguing in a circle, cannot but involve fallacies. The art of Kaulbach, in short, may possibly be imaginative, poetic, academic, classic and a thousand great things beside But this one thing is certain, that the manner is eminently artificial. The same charge, and not wholly without reason, has been made against the more elaborate and possibly overforced compositions of Raphael. The works of Kaulbach beyond doubt suffer under the want of strong conviction; the artist pays the inevitable penalty of serving not two, but twenty, masters; he seeks to be all things to all men. And the consequence is that these marvellous and matchless creations in Berlin would fail to satisfy Greeks of the time of Phidias, would not seem honest and earnest to devout spiritual painters of the Middle Ages, and do not commend themselves by actual truth and individuality to the naturalistic schools which in Germany are now rising to dominion. Kaulbach, in fact, is universal to a fault; painters more partial and less prolific have greater strength in narrower spheres.

Modern Religious Painting.

The old painters had a faculty for drawing near to nature, while rising above her. Saints portrayed by the old masters are men, and something more; prophets and apostles standing in Italian pictures bear not the aspect of mere ordinary men or everyday acquaintances with whom we may shake hands and chat; they inspire awe rather than invite to familiarity, for they seem to have held converse with the skies. Yet it becomes a question worth the inquiry of those who may seek a style consonant with religion, how far this elevation of spirit which has been termed supernatural is beyond or contrary to nature. The better opinion would seem to be that the so-called supernatural or spiritual principle in art is but a higher aspect of nature, that the storehouse of creation contains materials more than sufficient for the artist, however transcendental may be his aim. Thus it would appear that the office of the painter is chiefly to select Still something more nearly approaching to a mental function is needed than the "pre-Raphaelite" operation of penny-a-lining. What is mainly required is such study as shall lead to the clear understanding of nature's meaning, to the distinction between essentials and accidentals, to the discrimination of the difference between generic forms and individual detail. The subject is far too large to admit of elucidation within small compass. It may, however, be added that in these studies help may be found in Oersted's Essays which treat of the philosophy of nature; also in German authors who descant and dream on æsthetics; likewise in the discourses of Reynolds under the head of general ideas The practical lesson to be learnt from such inquiries seems to be that the religious painter of the present day must do something more than copy the individual model before him. The preceding thoughts may be put into another form; thus it may be said that nature, before she takes her place in a religious composition, requires what artists in general call "treatment," and what Reynolds signified by "style"—that is, a style and treatment in keeping with the subject-matter. We have seen how Phidias, a pagan, rose to religious expression; and under a very different guise, Gothic carvers in our venerable cathedrals fashioned a true Christian art: they reached, through stiffness, solemnity; through restraint, a repose and dignity not far from religious. As usual, our modern revivalists seize defiantly on defects, and thus certain manifestations of religious art in the present day—for instance, painted windows and carved doorways to modern Gothic churches—though commendable in motive, are hard as petrifactions and lifeless as fossils of extinct species.

English Dioceses.

Our ancient English dioceses represent the civil divisions which existed at the time of their foundation; but those civil divisions were not the districts of Roman cities, but were ancient English principalities. The sees were by no means necessarily placed in Roman cities. When they were, they can trace no unbroken succession from the bishops of Roman times. London and York had doubtless been episcopal seats in earlier times, but the English bishops of those cities were in no sense successors of the Roman or British bishops. A wide gap, the introduction of another people and another language, the introduction and the overthrow of another religion, cut off the two series from one another. But in truth an English bishopric had no such necessary connection with a city as a continental bishopric had. The head church, served by the bishop's monks or clerks, was placed somewhere, but it was by no means necessarily placed in the greatest or most ancient town in the diocese. Selsey, Ramsbury, Sherborne, Wells, Lichfield, Elmham, Dunwich were episcopal sees and little else, and all of them have, either for a time or for ever, had their episcopal rank taken from them. Dorchester—the Oxfordshire Dorchester—was a Roman site, but it had no continuous civic existence like Chartres or Angers. None of these cities have anything like the history, none of them have anything like the outward appearance of those cities in France where the Gaulish hill-fort has gradually grown into the modern city. At Exeter and Lincoln we do see an outward appearance which may be fairly likened to that of the French type of city, but the historical analogy fails us. Lincoln and Exeter were Roman cities, but they did not become English bishoprics till the eleventh century, when their episcopal chairs were removed to there from Dorchester and Crediton. Colchester, which, of all the towns in England, has the best claim to assert a continuous occupation since Roman times, has never become a bishop's see at all. Again, London stands in England absolutely by itself in the retention of anything like that continuous importance which Paris shares with many other French cities. Our greatest towns are, as a rule, neither the seats of Roman dominion nor yet the seats of old English bishoprics. Manchester and Leeds bear names which connect them with very early history, but they have no continuous greatness. Our old ports have mostly sunk into insignificance; some of them have ceased to exist. Southampton and Dover alone can pretend to any continuous life. Of our cities famous in the Middle Ages, Bristol and Norwich almost alone have kept up any unbroken importance; and of Bristol and Norwich, as the modern importance is quite secondary, the antiquity is quite secondary also. Throughout England our connection with early times is far more strongly shown in institutions than in sites or buildings.

Drapery in Painting.

Flaxman compares drapery to language. "As the beauties of the mind," he says, "are seen through and adorned by language, so the graces of the figure are set off with drapery." And his own outlines from Homer, Æschylus, Hesiod and Dante furnish beautiful illustrations of the valuable remarks on drapery contained in his lectures. The manner in which his flying figures, now poised in the air, now cutting it with extreme rapidity, and now gracefully floating in space, are aided by their garments is beyond all praise. Yet, admirable as they are, the painter in studying them must not forget that they are the draperies of a sculptor whose art admits more of the conventional in composition than painting. Flaxman's parallel between drapery and language may be carried further, for the well-known witticism attributed to Talleyrand, that "language was given to man to enable him to conceal his thoughts," is not inapplicable to the usefulness of drapery in concealing the defects of the body The preposterous fashion of hoop-petticoats, which was carried to its utmost extreme in Spain in the reign of Philip IV., originated in no good; cravats are said to have been introduced to hide scrofulous throats, and padding the chest is considered essential to the manliness of the military figure. But the hypocrisy of dress stands no more in need of illustration than the hypocrisy of language. Both are fruitful subjects for the satirist, and by Hogarth every absurdity of the fashions of his time was treated with matchless humour. Few but must have noticed that the most elegant dress ever fails to adorn some figures; the very folds of a shawl fall awkwardly on vulgar or awkward persons. When Autolycus appears in the prince's dress, the shepherd remarks that "his garments are rich, but he wears them not handsomely." But where there is native grace and inborn gentility the most ordinary attire seems often to dispose itself to advantage, without the least care or study on the part of the wearer. In such instances the charm is communicated by the wearer to the dress. In art the taste of the painter must do this, and either turn every change of fashion to advantage with Reynolds, or invest the torn caps and the rags of peasant children and cottage girls with the artless grace of Gainsborough. But though neither he nor Reynolds could explain their secret, nor can we hope to discover it by looking at their works, yet we may be sure that if we really feel their refinement—a refinement far from all vulgar notions of elegance—we shall never stand before their best pictures without some good to ourselves. When Reynolds was asked how he could bear to paint the cocked hats, bonnets, wigs, &c, of his time, he answered, "They have all light and shadow."

Correspondence

Standard Sections of Beams.

SIR,—We have read with great interest the article in your issue of the 1st inst, entitled "Standard Sections of Beams." Perhaps you will permit us, through your columns, to correct an impression which the writer of the article, no doubt unwittingly, conveys—that the Engineering Standards Committee have not exercised sufficient discrimination in their choice of code words to describe the standard sections.

As to the range of standards which the committee have seen fit to recommend, we are not competent to speak. But as professional compilers of codes, we must confess to some knowledge of the commercial working of such books of reference, and we would like to make clear the reasons which have induced the committee to adopt such words as "Absinthe" and "Abstainers" as the symbols of their sections. We may state, by the way, that the "Via Eastern Social Code" referred to by the writer of your article was compiled by us, and that the Engineering Standards Committee have authorised us to prepare the coded lists of their sections. For the choice of the words which are taken exception to, we are therefore personally responsible.

We judge that the writer of your article is not aware that the lists of sectional iron and steel, of which beams form only a small proportion, will be included in a series of volumes embracing the whole of the committee's findings, and including a great number of coded phrases and tables for the convenience of manufacturers, merchants and buyers who use the long-distance cables. It is apparent that the necessities of a publication of this kind demand that the code words shall be in strict alphabetical order. Otherwise the receiver of a telegram would never be able to discover the meaning of any given code word. The list of standard beams will be inserted amongst the first few pages of volume I. The code symbols for beams must therefore be words beginning with the letter "A," and as nearly 400,000 words will be required to represent the various sections, phrases, &c., throughout the entire series of volumes, it is absolutely necessary that such good telegraphic words as "absolved" and "absolving" be employed. To the uninitiated they appear very similar, but no telegraph company is likely to confuse them when transmitting a message.

If the writer of your article will consult any good commercial code he will find—for instance, in the fifth edition of the "A B.C."—that potash water is symbolised by "bimonthly," and Russian oats by "bluffing," but we never heard of a merchant, however frequently he may use this code, calling these articles by their corresponding code words

We are afraid the wharf labourer would not rise to the ingenious suggestion of your article to learn the code symbols for each beam, even though they were temptingly described by the names of famous engineers Telegrams are usually deciphered in the merchant's office, and the code clerk's duty is to give his principal a correct translation within the shortest possible time. For this purpose strict alphabetical order of code words is a necessity.

Trusting that this explanation will not encroach too far upon your valuable space,—We are, dear sir, yours faithfully,

ROBT. ATKINSON, Manager.

Salisbury House, E.C. Robert Atkinson (London), Limited.

The Birmingham City Council on Tuesday agreed to the extension of the Council House buildings at a cost of 100,000*l.*

Liverpool Cathedral.

SIR,—The beautiful plate showing the interior view of the nave from the choir of the new Liverpool Cathedral which was issued with *The Architect* for January 1 has been much admired and appreciated by your readers, as well as by those of the general public who have been fortunate enough to see it. As there is now very widespread interest in the Liverpool Cathedral, more especially in view of His Majesty the King having, it is understood, consented to lay the foundation-stone early in the coming summer, could you not favour your readers in the north with a companion plate, showing the choir from the nave in an early issue of *The Architect*, also with views of the crossing, the great transepts and other interesting internal and external views, together with full descriptions both as to detail and in general?

I am sure, from conversations heard in trains, boats and trams, and in public institutions, that a series of large views similar to the one referred to, with comprehensive descriptions of this, the first twentieth-century cathedral, would be deeply interesting, and would be greatly appreciated, not only by the architectural profession and the building trade, but also by the clerical and general public and the numerous subscribers to the Cathedral Fund.—I remain, yours faithfully,

Ivy Lodge, Marlborough Road, JOSEPH SLATER.
Tue Brook, Liverpool:
January 11, 1904.

GENERAL.

The King and Queen of Italy on Monday opened the exhibition of architecture, painting and sculpture, the work of pupils of the American Academy of Art in Rome. The exhibition is held in the Villa Aurora, called after Guercino's fresco of *Aurora driving away Night*, which is in it.

Mr. H. Saxon Snell, F.R.I.B.A., died on Sunday last in his seventy-fourth year He erected several poor law and other buildings, baths, &c.

A Statue of Salmanassar II., the warlike king of Assyria, has, according to the *Cologne Gazette*, been discovered in the course of the German excavations in the neighbourhood of Baghdad. The statue bears numerous inscriptions, but the head and the left side are stated to be damaged.

The American Naval Commission, who recently visited Europe, has presented a report in which the United States are advised to build naval barracks near New York and at Chesapeake Bay. The Commission recommend that the men should sleep in hammocks, as at Portsmouth, but should have separate dining and sleeping rooms

The Pope, it is said, will shortly recommend the removal from monumental churches of such statues and paintings as possess no artistic value, as well as the careful preservation of all-important works of art.

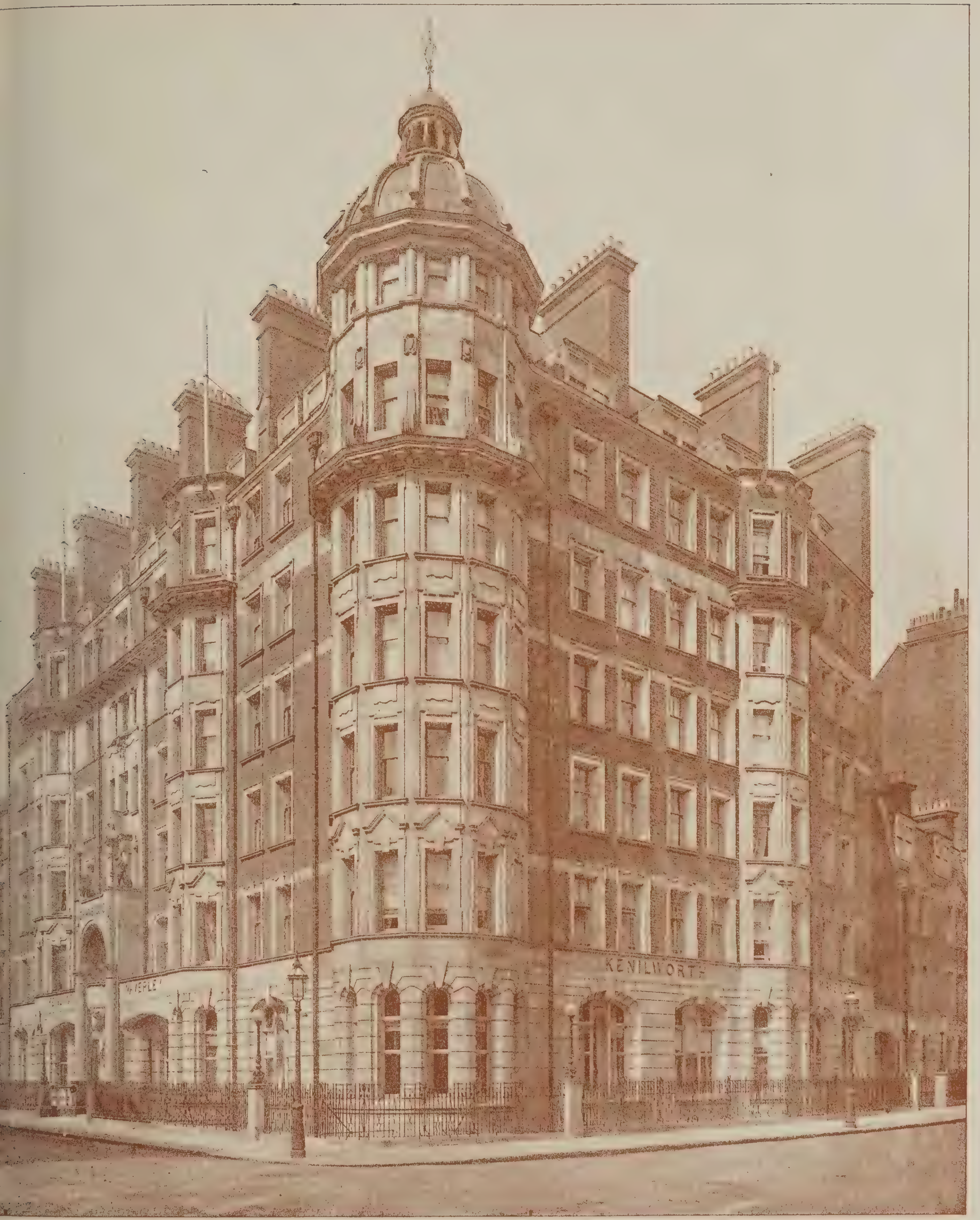
The Royal Society of British Artists on Monday elected the following water-colour painters as members:—C. Horsley, Ed Brown, W. H. Allen, Arthur Richardson, Walter Tyrwhitt and George Carline The two following miniaturists were also elected members:—Hugh Nicholson and Cecil W. Quinnell.

A Conversazione was held at Ironmongers' Hall on Tuesday, when Mr. Welch, the librarian at the Guildhall, read a paper on "City Archæology."

The Geological Society of London will this year award its medals and funds as follows:—The Wollaston medal to Professor Albert Heim, of Zurich; the Murchison medal to Professor G A Lebour; the Lyell medal to Professor A G. Nathorst, of Stockholm; the Wollaston fund to Miss E. M R. Wood; the Murchison fund to Dr. Arthur Hutchinson; the Lyell fund to Professor S. H. Reynolds and Dr. C. A. Matley; and the Barlow-Jameson fund to Mr. H. J. L. Beadnell.

A Collection of working details and general drawings or views by Messrs. G. F. Bodley, R A, T. G. Jackson, R.A., Aston Webb, R.A., John Belcher, A.R.A., Ernest George, John Douglas, Sir William Emerson, T. E. Collcutt, Basil Champneys, Austin & Paley, E. W Mountford, W. D. Caröe, Reginald Blomfield, H T Hare, Beresford Pite, Leonard Stokes, E J. May, Wm. Flockhart, James S. Gibson, Lanchester, Stewart & Rickards, Temple Moore, E. L. Lutyens, Arnold Mitchell, H. H. Statham and the late Eden Nesfield will be exhibited at Conduit Street on Friday next, the 22nd inst, at 7 30 P.M, when Mr. Maurice B Adams reads his paper on "As to the Making of Architects, with Examples of Draughtsmanship."

The reopening of the Wesleyan Centenary Hall and Mission House in Bishopsgate Street took place on Tuesday. The principal apartment is the centenary room, beautifully panelled in oak, and hung with historic pictures of bygone Methodists, which will be used for the full meetings of committee.



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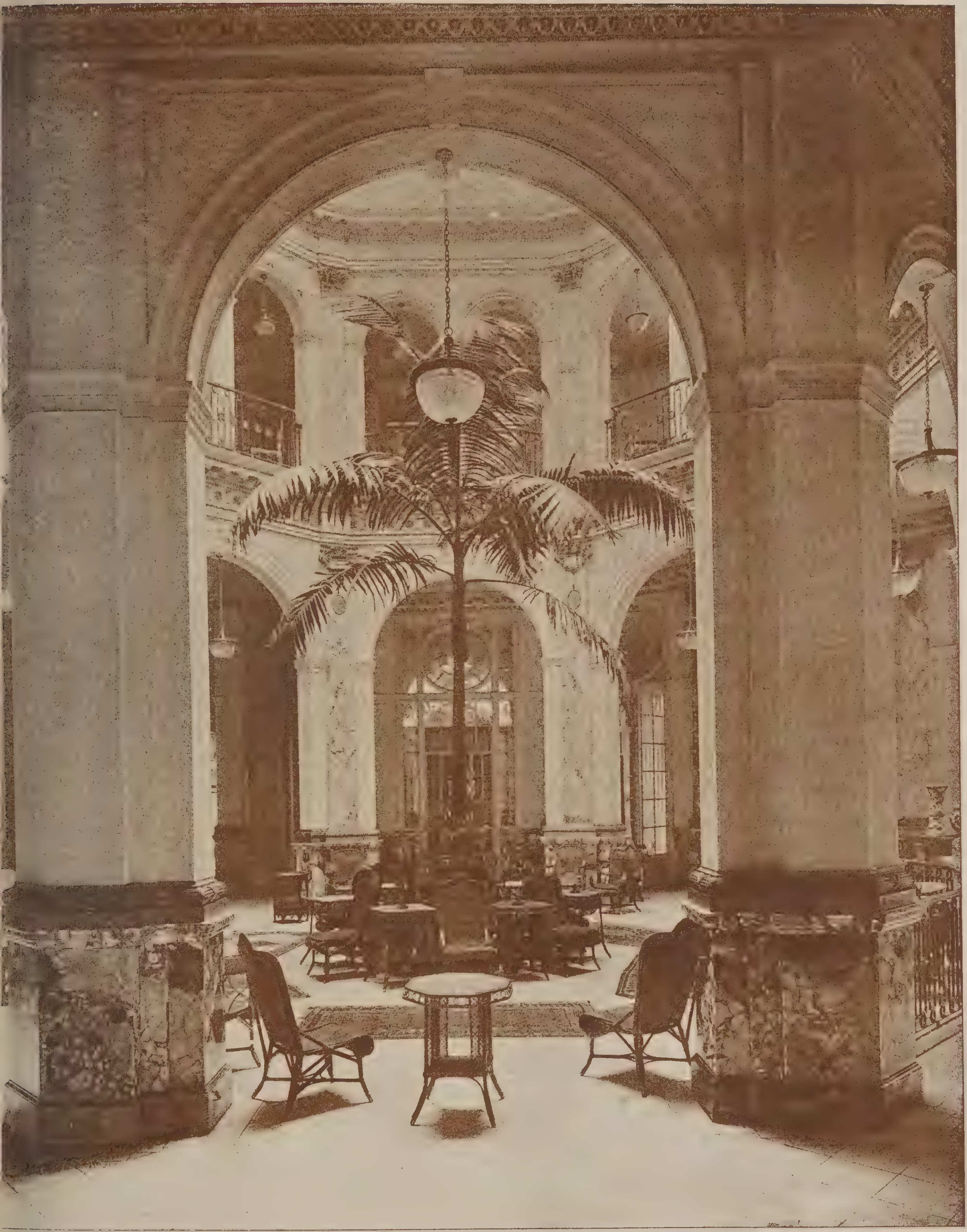
KENILWORTH WAVERLEY HOTEL.

GEORGE WAYMOUTH, Architect.



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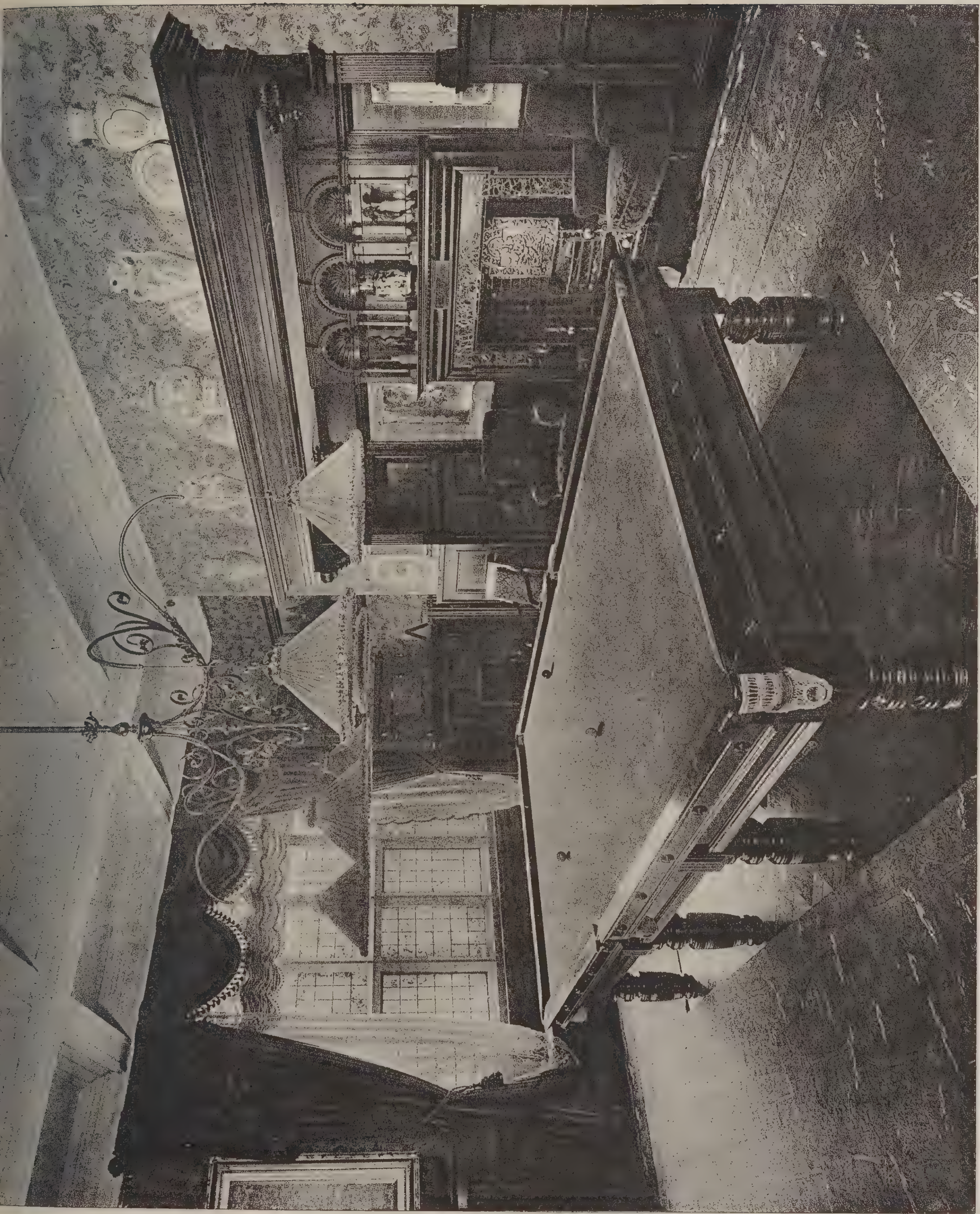
MIDLAND HOTEL, MANCHESTER: OCTAGON COURT.

CHARLES TRUBSHAW, F.R.I.B.A., Architect.



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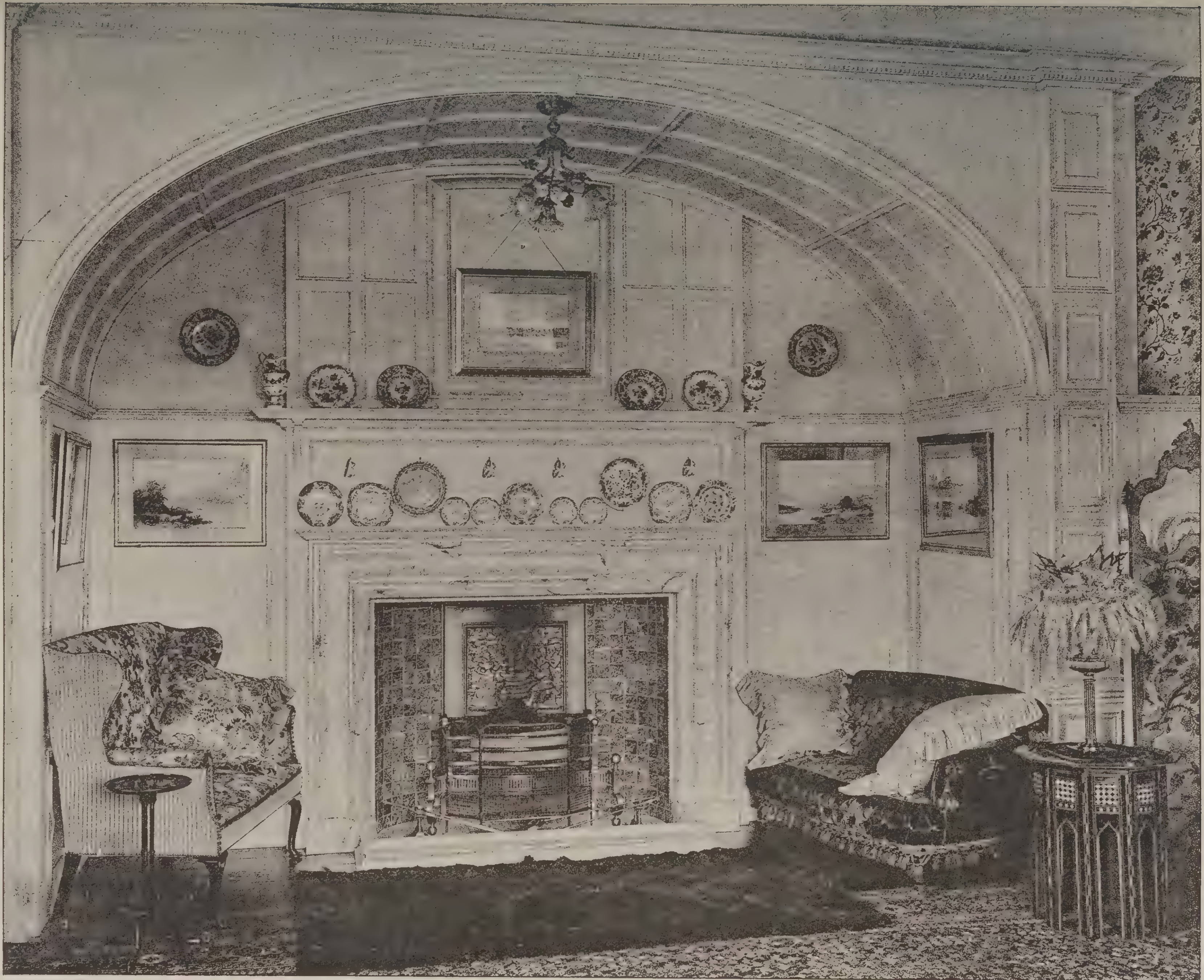
HOUSE AT BANSTEAD, SURREY: BILLIARD ROOM.

R. NORMAN SHAW, R.A., Architect.

The Architect, Jan: 15th 1904



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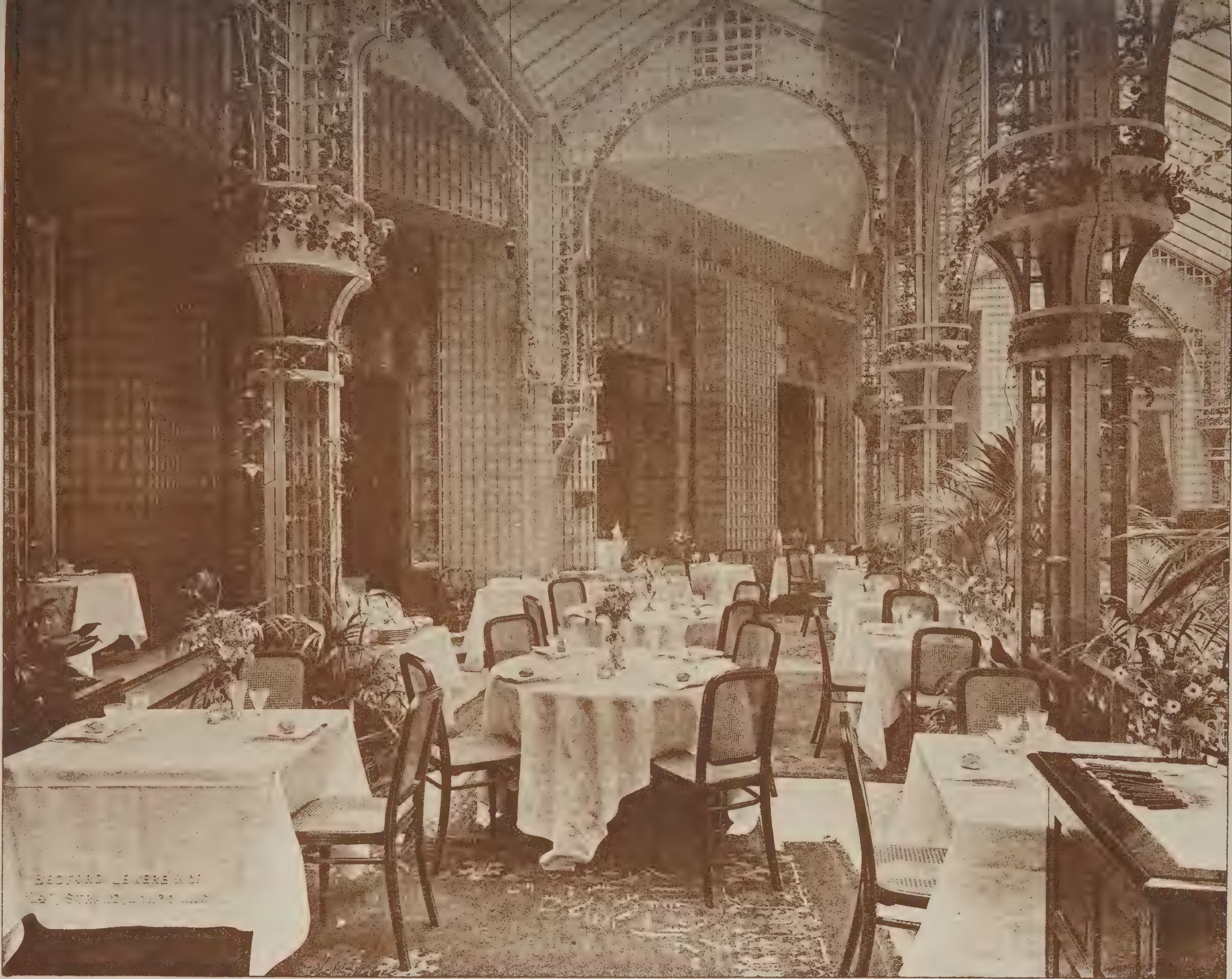
HOUSE AT BANSTEAD, SURREY: DRAWING ROOM.

R. NORMAN SHAW, R.A., Architect.



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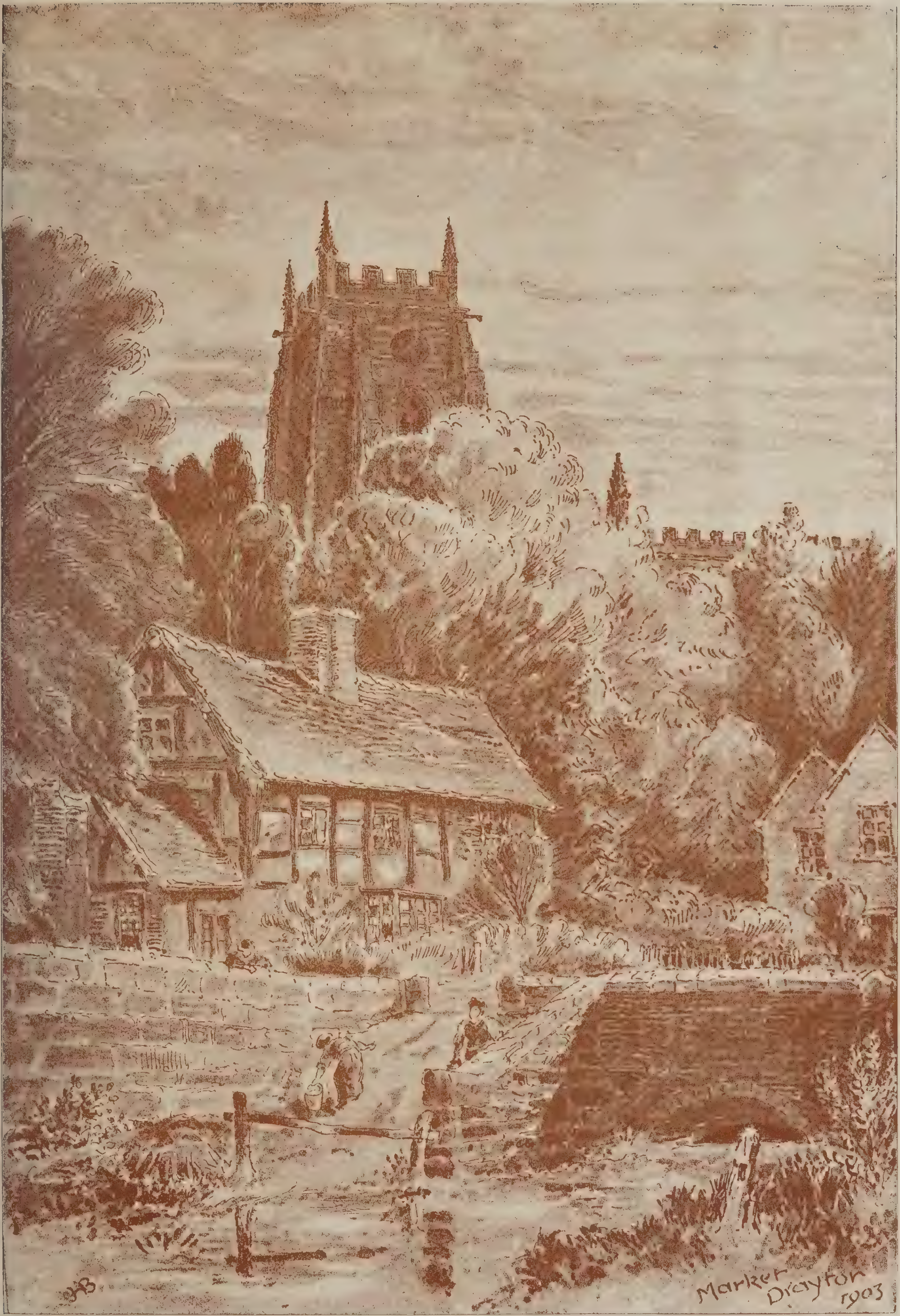
MIDLAND HOTEL, MANCHESTER: TERRACE AND GARDEN.

CHARLES TRUBSHAW, F.R.I.B.A., Architect.



J H BECKETT DELT

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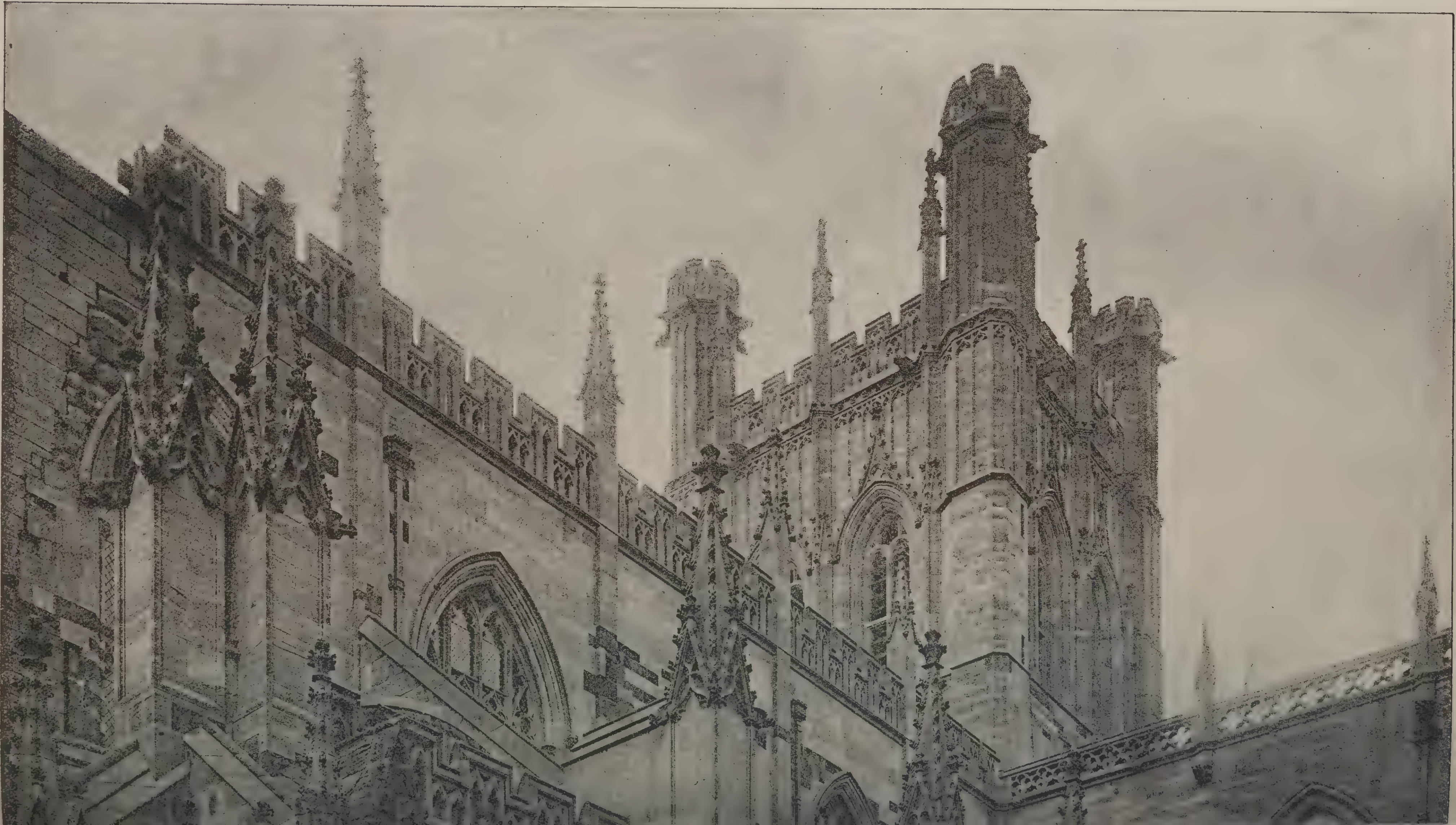

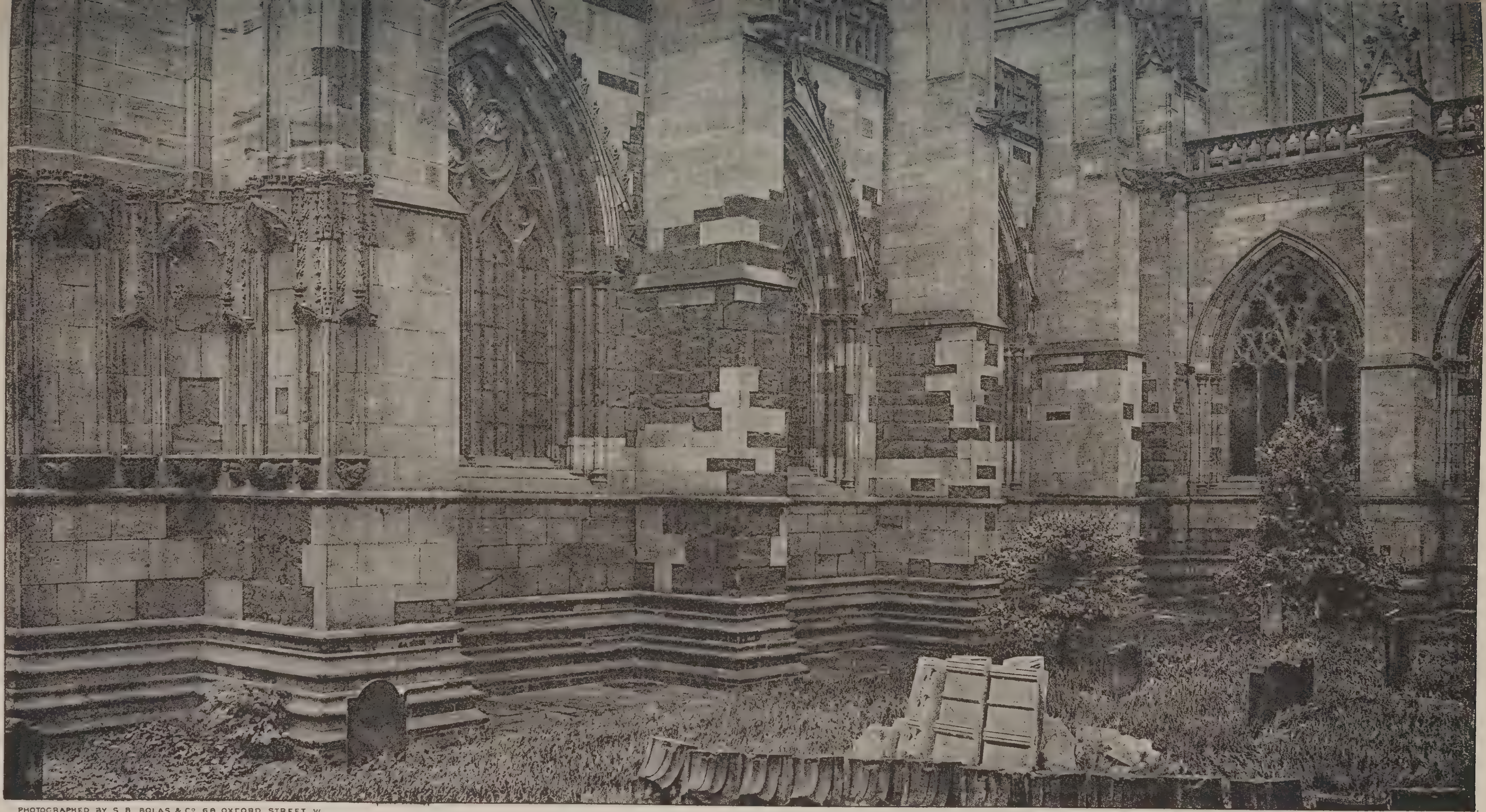

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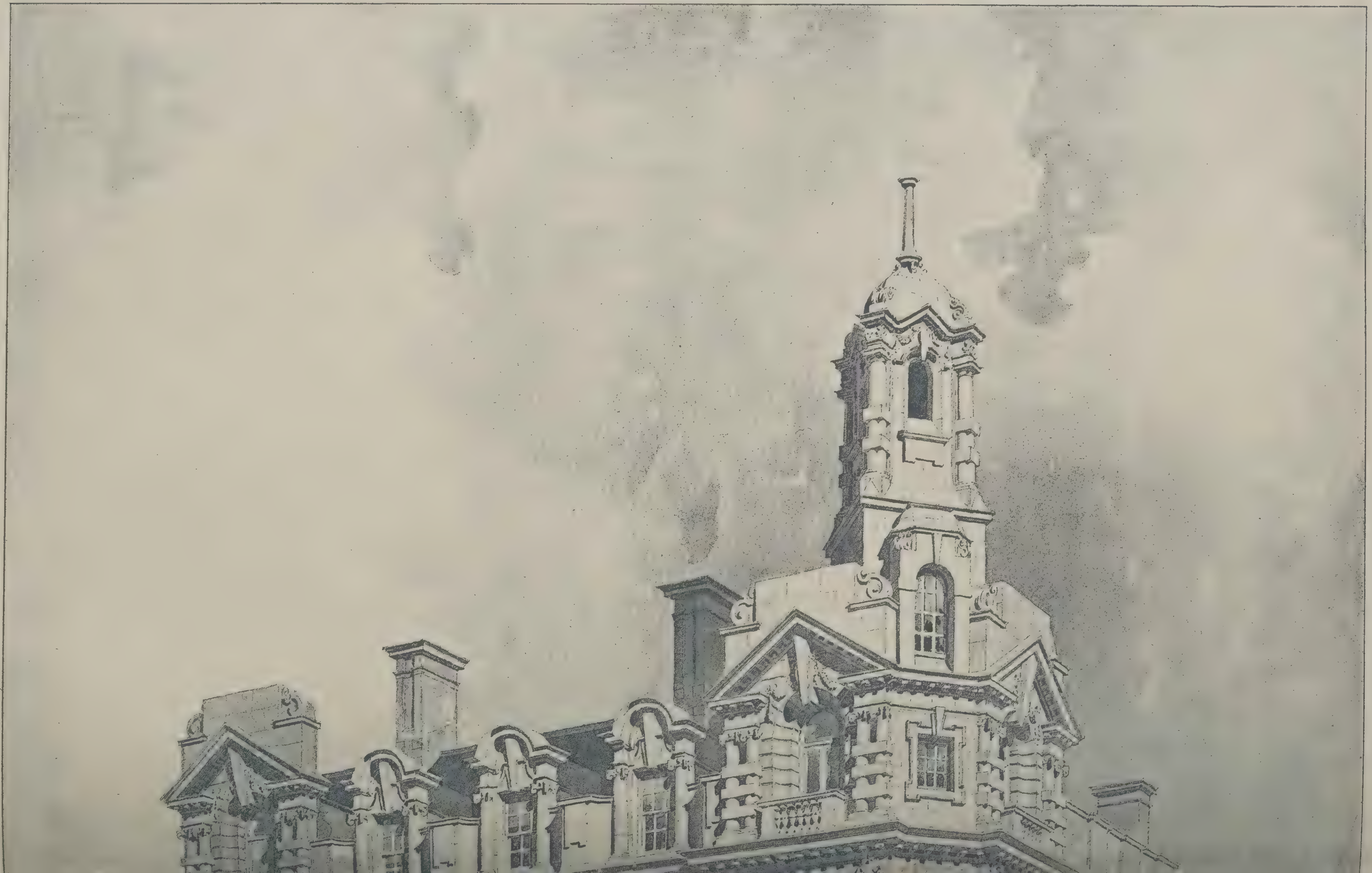
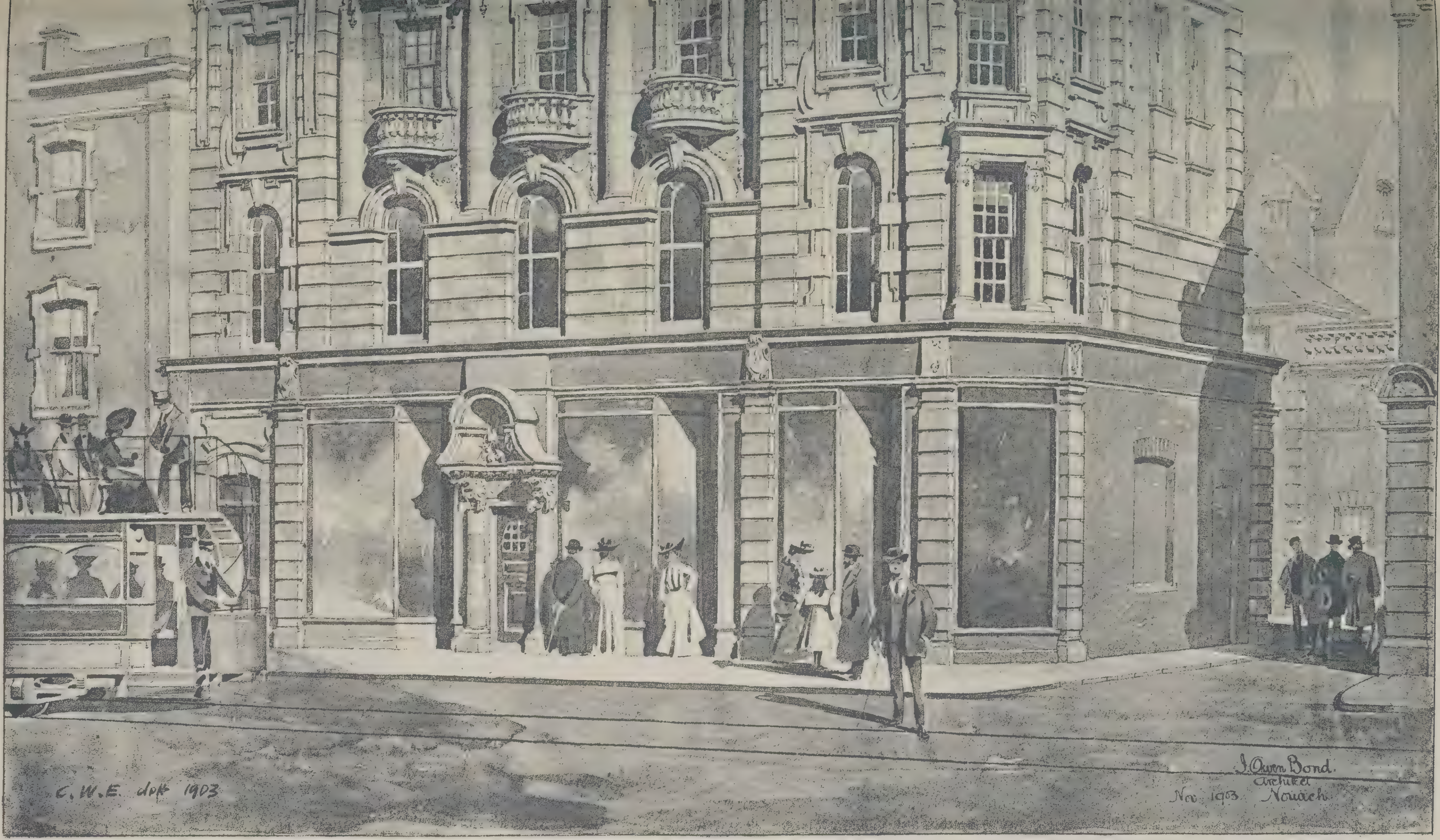
CATHEDRAL SERIES, No. 479.—CHESTER: TOWER, FLYING ARCHES AND BUTTRESSES.

LIBRARY
OF THE
UNIVERSITY of ILLINOIS




C. W. E. delt 1903
J. Owen Bond.
Architect
Nov 1903. Norwich.

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BURLINGTON BUILDINGS, ORFORD PLACE. NORWICH.

For Mr. Charles Larking, F.S.A.A.

J. OWEN BOND, Architect.

The Architect.

THE WEEK.

THE case of HASLAM *v* WATNEY, which was heard before Mr. Justice LAWRANCE on Tuesday, should be considered by surveyors, as it involves an important principle. It has been laid down by the Courts that an agent cannot represent opposing interests without risk to himself. In the disposal of lands and houses there is, however, sometimes a difficulty in avoiding a position of the kind, as both parties in a transaction may have confidence in him. The case in question arose out of a claim for a share in a commission amounting to 108*l.* 6*s.* 8*d.*, being a third of 325*l.*, which was paid to the defendants. The trustees of the Midgham Estate in Berkshire, for whom Messrs. HASLAM, of Reading, acted as the plaintiffs' surveyors, resolved to sell the property. For that purpose it was placed in the hands of Messrs. DANIEL WATNEY & SONS, who proposed to dispose of it by auction. They agreed to give plaintiffs a third of the commission received. The sale was by private treaty, the amount being 45,000*l.* There were rival interests. Messrs. WATNEY, and therefore the plaintiffs, represented one, but the plaintiffs aided the other interest in trying to defeat the sale. The Judge said a principal was entitled to all the knowledge and skill of an agent, and he left it to the jury to determine whether the plaintiffs, in breach of their contract with the defendants, and in breach of duty as agent, endeavoured to prevent the sale by swearing an affidavit and giving information. The answer was in the affirmative and judgment was therefore given for the defendants.

TENNYSON was born at Somersby, in the county of Lincoln, but it is only fitting that the memorial of the poet should be erected in the city. The question of site then arises. Ought the memorial to stand in a busy part, or be placed near the cathedral? If TENNYSON could have been asked during his lifetime he would no doubt have preferred the former. It is true he generally lived remote from towns, or the long, unlovely streets of the Metropolis, but he endeavoured to be a popular poet, and to express the thoughts of his contemporaries in the most melodious manner. The clergy, however, claim an interest in a man who was the son of a rector, and they prefer to have the memorial close to the cathedral. Mr. WATTS, who has undertaken the statue, has fallen in with this view, although he must be aware that the vicinity of so great a building will dwarf his work. The memorial committee met on Saturday and they unanimously decided that the site in front of the church of St. Benedict is inadequate. The statue will be placed either on the south of the cathedral, by the Vicars' Court, or on the east side opposite the Chancery. CARLYLE considered that the poet was one of he finest-looking men in the world, and his lofty stature was emphasised by the familiar Inverness cape which he wore during many years. He will be represented in that garb and holding his large felt hat in his right hand. A hound tands by his side. He once said it was very difficult to describe a statue in verse, but the examples we have in England prove that it is still more difficult to form a statue that will be worthy of a poet. Let us hope the Lincoln statue will prove an exception.

THE magistrates in metropolitan police courts have ten been worried in their endeavours to decide when a drain is not a drain, but a sewer, and whether individuals or public authorities are responsible for its condition. ome of the decisions relate to down-pipes, as well as to rains. It would be well if the subject could be restricted drainage; but, unhappily, as in other matters, it has come involved in the Workmen's Compensation Act. A cklayer and a labourer were engaged in cleaning a pipe which was used to carry off dirty water from the reservoir the Faversham Waterworks into a dry well. In e course of the work the earth fell in and the men sustained serious injuries. A claim was made or compensation. The Act says that "engineering work" means any work of construction, or alteration, or repair of a railroad, harbour, dock, canal, or sewer. It was therefore boldly contended on the part of the builder that the pipe was not a sewer or even a drain. A sewer must be of a public or quasi-public character and be intended for the passage of sewage. The judge, Sir W. L. SELFE, held the pipe was merely an underground passage for carrying water to a well, which then percolated into the ground and was lost. Judgment was accordingly given against the applicants. The case is one of those which it would have been preferable to leave unopposed. There is no doubt injury was suffered, and in equity compensation should be given. But the operations of the Act have now reached a stage which could not have been fully realised when it was passed. Insurance companies and societies of various kinds are combatants, and it is no longer a simple contest between an employer and a workman.

THE evidence which was given in the Lambeth Coroner's Court on Tuesday is not calculated to convince the worst class of London landlords that they are neglecting their duty to their tenants. A woman who lived in White Hart Square, Kennington Cross, slipped while going upstairs and fell a long distance. She died in consequence of her injuries. It was stated that the stairs were not provided with a hand-rail. There are many other houses in London which are as unprotected, but White Hart Square belongs to the Duchy of Cornwall. Property of that kind should be a model for imitation. The rents may be low, and the old-fashioned *laissez faire* policy is seemingly adopted. No regular inspection is practised, and consequently there is blissful ignorance on the part of the officers of the Duchy about the necessity for repairs. If tenants apply, then no doubt repairs are done, but it is well known that a belief exists that a tenant who appears to be discontented has to go elsewhere. It is unfortunate that such a state of things should exist, and the owners of slum property will say that if they were equally negligent little mercy would be shown to them.

BUILDINGS in the Classic style are not adapted to be altered or to serve for purposes different from those which were contemplated in the original arrangements. The Royal Institution in Edinburgh seems to be one of those which must submit to transformation. It was included in the inquiry of the Departmental Committee—to which we have lately referred several times—and its disposal has given rise to many claims. On Tuesday, a deputation, with Lord KELVIN as principal spokesman, interviewed the Secretary for Scotland in order to have the building preserved for the sole use of scientific societies. At present, PLAYFAIR'S building has to serve many purposes. When it was commenced in 1823 it was intended to accommodate the Board of Manufactures, the Royal Institution, the Royal Society and the Society of Antiquaries. In it are now a statue gallery, a school of art, a school of applied art. It has also been proposed that the building should be used for art exhibitions. The Departmental Committee recommended that the two art schools should be accommodated elsewhere, and that the Royal Society should benefit by the change. The statue gallery, it was also said, should not be allowed to stand in the way of any more useful allocation of the space. It was said by the deputation that there were fourteen scientific societies in Edinburgh having a membership of 6,000 who could be accommodated in the building. The Secretary for Scotland in reply said it would be quite impossible to house everybody in the rooms. Information would have to be forthcoming as to the amount of Treasury assistance, what the other societies were that would combine under one roof, and whether inadequate accommodation in the Royal Institution would be preferred to adequate accommodation elsewhere. He promised to impress on the Government the necessity for dealing adequately and generously with the subject. In the demand for accommodation it is desirable there should be some guarantee that the architectural character of the building will not be tampered with. The limits of alteration externally are so circumscribed as to be almost non-existing. A storey cannot be added, and it is doubtful whether wings would not be fatal to the appearance of the Royal Institution.

THE ASSOCIATION SKETCH BOOK.*

THE attention of anyone who takes up the latest volume of the *Sketch Book* is certain to be seized by MR. BALL'S admirable title-page, which would be worthy of preceding any collection of drawings of the highest class. The figure of a woman, who may be assumed to represent Architecture, is seen seated and studying a long scroll. The seat or alcove has an architectural character, and the composition is not surpassed in beauty of line by the cover of any of the English magazines. With so attractive an opening page, the expectation is raised that the drawings which follow will be fitting companions to it. Fortunately the Association has obtained the co-operation of several members who have already proved their skill as draughtsmen. Among them may be mentioned Mr. MARVIN, Mr. A. M. PRENTICE, Mr. CECIL BREWER, Mr. ARTHUR KEEN, Mr. DE GRUCHY, Mr. H. TANNER, jun. Seventy-two plates are produced, of which sixty-two deal with English subjects, the remainder being derived from France, Germany, Italy and Spain.

Mr. RICHARDSON contributes three measured drawings, which will have interest as memorials of "Christ's Hospital" in Newgate Street. The details are shown with great exactitude. From the notes we learn that in the ordinary brickwork there were about four courses to the foot, and in gauged brickwork to pilasters, &c., six courses to every 12½ inches. The main entrance is now set up at Horsham. The modillions in the segmental pediment were found to be spaced perpendicularly over those in the cornice below. There is no sign of decay, and the old building would have served for many years as a public school if it were not for the operation of other causes. Mr. RICHARDSON has also derived four drawings from the Temple, comprising the gatehouse, doorways in King's Bench Walk and two staircases. The last have withstood a good deal of wear and tear. One reason for their preservation is undoubtedly the liberal use of wood; the balusters, for instance, are only 3½ inches apart. Mr. RICHARDSON is able to preserve regularity in the thickness of his lines, and his elevation of Christ's Hospital might, at a distance, be taken for a drawing covered with a wash of Indian ink. The four drawings of the "Church of St. Mary Woolnoth," by Mr. A. C. BOSSOM, were a difficult undertaking, owing to the extraordinary variety of details and the connection of the church with the electric railway. The plates, therefore, are unusually crowded with information. Although the church was repaired by WREN after the Great Fire, it was necessary to demolish it in 1716, and it was erected from HAWKSMOOR'S plans. It is grandiose, after the fashion which prevailed in the first quarter of the eighteenth century. The perspective of Lord BURLINGTON'S villa at Chiswick, although without any shadows, is also successful, and attention is given to the details. The "Horse Guards" is shown on three drawings by Mr. W. HAWKE, and to which he has imparted some resemblance of the qualities found in the old engravings in such works as the *Vitruvius Britannicus*. The lining is very fine and the windows are stippled. But the treatment is in keeping with the building, which neither in its general aspect nor in its details is remarkable for boldness. The "Great House, Leyton, Essex," which dates from the first quarter of the eighteenth century, is shown on a measured drawing by Mr. EDWIN GUNN. The walls are of stock brickwork, with red quoins. There are two floors, a basement and an attic, and the roof is slated. The entrance front has Corinthian pilasters of gauged brick, with stone bases and capitals. The ground-floor plan shows a large hall in the centre, dining-room, ante-room and withdrawing-room on the left side, with north and south parlours, long room and kitchen on the right. A distance of about 50 feet separated the kitchen from the dining-room. The building is an excellent specimen of its class, although variety was eschewed. The bell-turret was removed in 1806 to the tower of Leyton Church. Another Essex mansion is "Eastbury Manor House," a late sixteenth-century structure. The drawings of it were prepared by Mr. MARVIN in 1872. They will bear comparison with the later examples of drawing, and suggest that the Sketch-book standard was tolerably uniform. There is an elevation and first-floor plan by Mr. E. F. REYNOLDS of "Aston Hall," which is ascribed to JOHN THORPE, and now is used as a public museum. It has been often represented, but is one of those buildings which it is profitable to work in. A sketch of some of the immense windows of "Kirby Hall" is given by Mr. H. TANNER, jun., as well as part of the court of "Apethorpe Hall;" both are vigorous examples of free-hand drawing. Mr. DETMAR shows some eighteenth-century doorways from Winchester, besides woodwork belonging to the sixteenth and seventeenth century from the cathedral. Mr. HAROLD GIBBONS has very carefully drawn parts of the stalls of an earlier time in the cathedral and the figures are remarkable for their quaintness.

From Oxford there is a portion of the colonnade by INIGO JONES in St. John's College, a fine instance of free Italian work, very delicately rendered by Mr. J. B. FULTON. There is also a geometrical drawing of a part of the outer quad of Queen's College, Oxford, which is eighteenth-century work. The stone screen in HACUMBLEN'S Chantry, King's College, Cambridge, has been drawn and measured by Mr. DETMAR. As the date is 1508-15, it is a Tudor example of a time when the treatment of Gothic had become rather mechanical. The cupola over Trinity Hall and another in Caius College have been sketched by Mr. STEWART; they were designed by JAMES BURROUGHS, architect, about 1745.

Mr. F. C. MEARS'S subjects are the Organ Gallery and Panels in King's College Chapel. The drawings from "COLE'S Farm, Box," are so interesting, it would have been an advantage if a general plan and elevation of the building had been included. It is described as "a typical stone farmhouse, erected 1649; dining-room oak panelled, and with a fine plaster ceiling and frieze. The house in a very neglected state, and much of the panelling removed since drawings made." The ornament is superior in quality to what might be anticipated for such a building. If similar examples were more general they would testify that art was widely diffused in the seventeenth century. The drawings are by Mr. H. A. HALL. A sketch of "Crockham Farm," Kent, by Mr. ARTHUR KEEN, is suggestive of a picturesque group, and he gives a view of Stokesay Castle, Shropshire, one of the most pleasing combinations of lay and clerical buildings to be found in England. Another view of Stokesay is by Mr. EDWIN FORBES. An example of a wrought-iron gate and railing without any novelty is drawn by Mr. P. E. NOBBS, from Lincoln. Another gate from Ashbourne is shown by Mr. LISHMAN, but it is inferior to those derived by him from Wovington Manor, Sussex, and the Deanery, Chester-le-Street.

It is remarkable how numerous are the drawings of churches in the volume. Those which come nearest completion are the four representing Lindisfarne Priory, by Mr. R. WYNN-OWEN. It is a semi-island on the coast of Northumberland and early gained a reputation for its monastery. The priory is now in ruins. Mr. OWEN on his plan shows the whole of the triangulation he adopted, a practice which should be often imitated in dealing with the plans of old buildings. Many of the arches are Norman, and they have been supplanted in some places by others which are Pointed. The profiles of mouldings are all bold and simple. A font cover and other examples of early sixteenth-century carving are derived by Mr. MEARS from St. Botolph's, Trunch. Two examples of stained glass in York are drawn by Mr. MYRTLE SMITH. The beautiful church of St. Mary, Beverley, has supplied Mr. DE GRUCHY with materials for three sheets illustrating the choir stalls. Different in character but suggestive of the difficulty of carving oak is his elevation of bench ends from St. Ives. Mr. VARNDELL'S drawing represents the shrine of St. Etheldreda in Ely Cathedral. A weird example of ironwork is derived by Mr. DE GRUCHY from the porch of St. Saviour's Church, Dartmouth. It shows how the smiths contrived to represent heraldic lions out of plate iron. Four sheets are devoted to the Wriothesley monument in Titchfield Church, Hants. The date is conjectured to be 1585. It should arouse interest, for one of the figures shows the third Earl of SOUTHAMPTON, who was the friend and patron of SHAKESPEARE. It was directed that 1,000*l.*

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* *The Architectural Association Sketch Book.* Third series. Vol. VII. 1903. Edited by William G. B. Lewis and William A. Pite. (London: The Architectural Association.)

should be expended on the funeral and monument of the second Earl, or 12,000*l.* of our money. The drawings are by Mr. A. S. W. Mackay. Another interesting tomb is Lord Treasurer Burghley's in St. Martin's Church, Stamford, of which a geometrical drawing is given by Mr. Gillespie.

Among the miscellaneous subjects are two sheets of chimney-tops sketched on the Continent by Mr. Marvin in 1875. At the time it was not realised that in England interesting examples were also to be found. Mr. Cecil Brewer in his French sketches has selected mainly farm-houses and small residences. The "Porta della Carta" of the Ducal Palace, Venice, is a favourite subject with artists; but, as a rule, only the general effect is indicated. Mr. Salway Nicol has given a sufficient portion of the elaborate detail to enable the whole of the ornamentation to be realised. Some French metal door furniture is drawn by Mr. Lishman. The three Spanish subjects are by Mr. A. N. Prentice. The cathedrals of Burgos and Salamanca are suggested by outlines, and there is a plate of wall tiles in colour.

There is no question about the interest as well as the variety of the plates. But the editors would do well to consider whether so much power as is at their disposal could not be utilised for some definite purpose. Chance is often favourable in producing satisfactory results; still, all that can be expected from it is a miscellaneous collection, which may cause surprise from seeing such divers things brought together. If one particular class of work was selected valuable precedents could be united in seventy plates without additional labour. At present it is no easy task to discover a particular example amidst such a crowd as the several series of the *Sketch Book* display. Moreover, the opportunities for comparison between different types are rare, especially with volumes so large. Much would be gained and the utility of the work for reference would be increased if the character of the subjects desired for each series was defined in the circular issued by the committee.

SIR BALTHAZAR GERBIER.

THE mention of the name of Balthazar Gerbier in connection with the landscape by Rubens, or rather by Verhulst, which is now to be seen in the Winter Exhibition of the Royal Academy, recalls one of the strange figures who were auxiliaries of the Court during the reign of Charles I. He was not a man of great abilities, but he was versatile, and on that account he was no doubt useful in many of the transactions which were necessary in order to realise the tortuous policy of the time. Gerbier was a Rubens on a very small scale. The great painter was so able and influential, he could act as a diplomatist in a princely manner. His supremacy in the arts, his honourable character, his loyalty and his wealth gained for him a footing in certain Courts which nobles did not dispute. Gerbier also claimed to be an artist, but his abilities were humble and he merely played a secondary rôle in affairs.

Balthazar Gerbier was supposed to be a native of Antwerp and to be born about 1591. He would therefore be about the same age as the first Duke of Buckingham, whose service he entered in 1613. Gerbier was described as a miniaturist, but, according to Sanderson, he was only "a common penman, who pensiled the dialogue [decalogue] in the Dutch Church, London." That he painted on a small scale is evident from a letter of the Duchess of Buckingham, who asks her husband while in Spain to "sit to Gerbier for your picture, that I may have it well done in little." Probably he was able to produce manuscripts in which fine writing, ornament and figures were combined.

Whether the Duke's absence in Spain arose out of the romantic escapade in which he and Prince Charles took part we need not inquire. The two, in the guise of plain John Smith and Thomas Smith, ordinary English travellers with three attendants, arrived suddenly in Madrid in 1623. Their object was to arrange a marriage between the Prince and the sister of Philip IV. The negotiations failed, but somehow both Rubens and Gerbier afterwards were employed in what seemed to be a revival of the project. For instance, in 1625 Rubens informed Gerbier that the Infanta "had a lively sense of the wrong done to the Prince during his stay in Spain." He frequently wrote begging Gerbier to make the Duke of Buckingham "understand the Infanta's great regret that affairs were in their present state." The correspondence on the subject between the two amateur diplomatists went on for several years. The affair was a training in duplicity for Charles, which was destined to have memorable consequences. James I. died in March 1625, and in less than two months the marriage of Charles with the French Princess Henrietta Maria was solemnised by proxy in Paris.

Although there was an end to all schemes of an union with Spain, there were questions on the Continent in which Rubens and Gerbier acted as intermediaries. As long as Buckingham exercised power Gerbier was busy, and in other ways besides writing. In the expedition against Rochelle he relates how "the Duke caused me to make certain works, according to the same model as those wherewith the Prince of Parma blew up, before Antwerp, the main dyke and estacado; they were so mighty strong, and of that quantity of powder, and so closely masoned in banks that they might have blown up half the town." As Buckingham was about to depart to take charge of the attack, he was assassinated by Felton in August 1628.

Gerbier suffered by the death of his patron. He possessed the threads of negotiations, and was expected to continue working them. It was forgotten that he had not the financial resources of Buckingham, who was able to accumulate debts to the amount of 65,000*l.* There are several letters from Gerbier in which he bemoans his expenses. Rubens found it necessary to come to England, and he and his suite lived on Gerbier. Speaking of himself in the third person he says:—"The king has taken from Gerbier a cordon of diamonds and a ring to give to Rubens. God knows when Gerbier will be paid; as also for the charges of ten months' entertainment for Rubens. It is poor reward to be put to charges and still be excluded from confidence."

Charles I. was not altogether indifferent to Gerbier. In February, 1629-30, two royal warrants were issued, one ordering the payment of 500*l.* "unto Mr. Balthasar Gerbiere for a diamond ring and a hat-band by him sold to His Majesty to be presented unto Signor Piere Paulo Rubens, secretary and councillor to the King of Spaine," the other for 128*l.* 2*s.* 11*d.* for charges and entertainment of Rubens, his brother-in-law, and their men. It was during his mission that Rubens painted several pictures including the *Peace and War* now in the National Gallery, and which was once known as the *Family of Rubens.*

Gerbier contrived to retain a hold on the Court. In 1631 he obtained a pass as agent with the Archduchess, by which he was to be allowed to embark at any of His Majesty's ports with all his followers, servants, trunks, chests, bag and baggage, without search, and he was also to be furnished with able post-horses. On one occasion while he was abroad the Queen-Mother (Elizabeth, Queen of Bohemia, and sister of Charles I.) came to see him, ostensibly for the purpose of giving him a gold chain for Vandyke, but in reality in order to explain the pitiable state into which she had fallen, and how she was every day further from succeeding in her hopes.

A new field was opened in which Gerbier's services could be employed. Charles I. resolved to rival the continental sovereigns in patronising the arts. In Rubens and Gerbier there were two agents who might be trusted. The former was not only to collect pictures, but to paint them, and the negotiations with him were commenced by his old associate. A most interesting series of letters relating to the works undertaken has survived. In one he asks Rubens to inform him when the allegories for the Banqueting Hall, which suffered from being rolled, will be retouched and fit to be sent away, "so that I may do justice to the orders which have been given to me, and do justice to myself also; that I may sleep in repose without worrying too much if heavy gales should blow, although their utmost rage could never reach me." On another occasion he tells the king that the late Infanta's movables and jewels are to be sold, including "120 pearles of 200 crownes apeece, the fairest of water and the perfectest in the world."

In April 1640 we find Gerbier complaining to Rubens of some of the official ingratitude of which he was the victim. "Men," he declares, "have neither ears, nor eyes, nor natural feelings, therefore it is best for me and mine to choose another climate." A month afterwards his friend died "off a deflaction which fell on his heart, after some days indisposition of ague and goutte." RUBENS left a grand collection of treasures, the pictures alone numbering 319. GERBIER was anxious the king should purchase part through his agency. He says that "bills of credit would be necessary to make good the payment, since without money nothing can be made sure," but he also hints that the payment of his own arrears would be more comfort to him than the shadows of things.

About that time the troubles of CHARLES were beginning to lower over him. In the course of a few months the sittings of the Long Parliament began, and with it a gradual diminution of the royal prerogatives was attempted. It was, no doubt, from a feeling of loyalty to the king that GERBIER in 1641 took the oaths of allegiance and supremacy. He became therefore a naturalised citizen. He had formerly declared himself to be "heart, tooth and naile English." Then for a while he passes into obscurity. "From that time," says WALPOLE, "to the death of the king I find no mention of him, though I do not doubt but a man of so supple and intriguing a nature, so universal an undertaker, did not lie still in times of such dark and busy complexion."

When GERBIER was next heard about the fate of CHARLES was almost apparent. In 1648 the king was in prison at Hampton Court or in Carisbrooke. But that year was selected by GERBIER as an opportune time to found an academy. He issued a prospectus which he entitled "The Interpreter of the Academie for Forrain Languages and all noble Sciences and Exercises," and it was dedicated to all fathers of families and lovers of virtue. From the report of a lecture on "Well Speaking," which was inscribed to "the right high and supreme power of this nation, the Parliament of England," the Academy was held at Bethnal Green, while another lecture on "Military Architecture" was said to have been read at the Academy in Whitefriars. May we not suppose it was only a means devised to enable royalists to meet without incurring suspicion? On the other hand, it is asserted that GERBIER began to libel CHARLES I. as early as 1651.

GERBIER found his way to CHARLES II. in exile, and became master of ceremonies. He returned to England in time to design the triumphal arches. Whether he was rewarded or not cannot be ascertained. But it is certain that immediately after the Restoration he endeavoured to prove his competence as a director of buildings. In 1662 he published a discourse on magnificent buildings, and the advantages of solidity, convenience and ornament. He had been in correspondence with INIGO JONES, and probably had an eye on the office of Surveyor of Works, for he does not fail to point out the errors of that architect. A room of 35 feet square which GERBIER constructed near the water gate at York Stairs was said by him to have given as much satisfaction to CHARLES I. as the Banqueting House. Among the improvements he proposed were the levelling of Fleet Bridge and Cheapside. He drew a design of a gateway at Temple Bar. The only commission obtained by him which is recorded is a mansion at Hempsted-Marshal for Lord CRAVEN. The foundation-stone was laid in 1662, and while it was building GERBIER died there in 1667 and was buried in the chancel of the parish church.

Another treatise which was intended to manifest his competence was his "Counsel and Advice to all Builders," which appeared in 1663. By builders he means gentlemen who are desirous to erect mansions. He advises them, in the first place, "to make choice of a skilful surveyier [architect], from whose directions the several master workmen may receive instructions by way of draughts, models and frames." All surveyors were not skilful, for many among them employed columns, cornices and frontispieces as wildly as the wild Americans who hang their pendants at their nostrils. The surveyor should, he said, consider the site, and it is advised that he should be made to prepare a plan in the presence of the building owner, which should show all the desired arrangements. Space was available in those days, for the dimensions of a bedchamber of state are given as 40 by 30 feet by 18 or 16 feet.

In designing the exterior, cornices over doors an windows are recommended, for they resemble the "broa brim of a good hat on a rainy day." The large "spectacle like cant windows which are of glass on all sides" h dislikes, and he compares the occupiers of the houses wher they are found to "a merry Italian fisher, who on a winter windy, rainy day had been stript to his skin, and havin nothing left to cover him save his bare net, wherein he wa wrapt, put his fingers through one of his holes, askin of passengers what weather it was out of doors." GERBIER was fond of humorous comparisons. Doors with what h calls "stumbling-block thresholds" must, he considers have originated in "the ancient custom of bridegrooms who, when formerly at their return from church, did use t lift up their bride and knock her head against that part o the door, for a remembrance that she was not to passe th threshold of their house without their leave."

He attached much importance to the clerk of works whose eyes "must wander about every workman's hands." From what is said it becomes evident that the master workmen and their assistants of those days were not indisposed to scamping and shirking. The measurers were also to be watched, for "a leger-de-mayne may be prejudicial to the paymaster's purse." GERBIER was an advocate of economy, and on that account, as well as for uniformity of colour, he preferred blue slates for roofing, since with "red-tiled roofs the least breaking of them makes great chargeable work for the tiler, who often removes ten tiles to lay two new ones in their place, and renders the nobleman's roof like a beggar's coat." He advised employers to buy the materials and to keep a reserve stock. If they could in addition lay in a stock of patience against the mistakes of workmen that would also be wise. Indeed, building was to GERBIER comparable to marriage: whether entered on or avoided disappointment was inevitable. As he said:—"If they build, they must be at great present disbursements, vext with as many oversights, and to be over-reach'd in bargains concerning their materials. If they build not, they are subject to the inconvenience of houses built according to the fancies of other owners; and when they shall cast up the summs of money spent in the rent, besides many chargeable alterations, they shall finde that they might have built better, and more fit habitation for them and their posterity." In all his writings about building GERBIER recalls WOTTON. Both were diplomatists and were unable to meddle with construction, yet in both we find a knowledge that seems to be derived from experience. Evidently in those days the subject of architecture was regarded as one with which it was becoming in a gentleman to have acquaintance, and moreover, there was no English painting or sculpture to allure attention from it.

The "Counsel and Advice" is supposed to have been GERBIER'S last literary production. There are parts of it which imply that he was a disappointed man. He may have imagined, like some other diplomatists, that his services were invaluable, and if he compared his lot with that of his friend RUBENS, there was undoubtedly a difference. GERBIER'S daughters, after his death, claimed that large sums were owing to them as his representatives, and they received, it is said, remuneration. But in such cases there is always discontent. His services to architecture or to art are not now to be traced. In the choice of paintings he appears to have followed rather than guided the taste of the Court, and as respects building, his pupil WYNN exercised more influence. But GERBIER must always be recognised as a link in the chain by which England was united with Italy and, through Italy, with Classic architecture.

The Council of the Institution of Civil Engineers have nominated their president, Sir William Henry White, to fill the place of the late Sir Frederick Bramwell as one of the representatives of that Institution on the Engineering Standards committee.

The Workmen's National Housing Council have issued an appeal addressed to Mr. Balfour, in which they call attention to the housing conditions of the working classes of this country, and urge that action should be taken by the Government to remedy the evils arising from overcrowding.

SAINT MAGNUS CATHEDRAL, KIRKWALL.

THERE are few counties in Scotland, says the *Scotsman*, that possess more objects of interest to the antiquary than Orkney. It boasts of its famous Mound of Maeshowe, its Standing Stones of Stenness, its Picts' houses and old palaces and St. Magnus Cathedral as evidences of the varied races of people that have lived within its shores. Picts, Norse Jarls and Scottish earls have left their monuments in domestic, defensive and devotional architecture. St. Magnus Cathedral is the finest example of the last. Founded in 1137, it has weathered the borean blasts for almost eight hundred years, and proudly rears its high head in memory of that grand saint of Orkney, St. Magnus. "The cathedral of St. Magnus," says Worsaae, "is incontestably the most glorious monument of the time of the Norwegian dominion to be found in Scotland." It is impossible to repeat here the ofttold story of the murder of St. Magnus or of the events that led up to the foundation of the cathedral as his memorial in the year 1137. The founder, as is well known, was Earl Rognvald, and his father superintended the erection of the building, which proceeded apace until its magnitude nearly exhausted the means of the earl. Rognvald called a meeting of the Thing (local Parliament) and proposed to the odallers that they should buy their odal possessions and not have to redeem them afterwards. To this proposal they all agreed, and it was decided that each would pay to the earl 1 mark, which was equal to 8 ounces of silver, for every ploughland in the islands. In the words of the Saga, "From that time there was no want of money to build the church, and it was made a magnificent structure." Shortly afterwards Rognvald, accompanied by William, first Bishop of Orkney, made a pilgrimage to the Holy Land. His memorable career was untimely cut short in 1158, when he was murdered in Caithness. He was first interred in South Ronaldshay, the nearest of the Orkney Isles to Caithness, and afterwards in the cathedral where he was canonised in 1192. August 20 is St. Ronald's (Rognvald's) Day.

Much might be written about the architecture of the cathedral, but to serve the purpose of this paper it will be sufficient if we refer only to some of its principal features. The late Sir Henry E. L. Dryden, Bart., who gave this subject much time and consideration, divides the architecture of the building into five styles, the dates of which range from 1137 to about 1500. The erection having been thus spread over the long period of more than three and a half centuries, little wonder may be expressed at the want of homogeneity of the structure. The changes of style are gradual, even showing themselves between the bottom and the top of a wall. Scarcity of money would have retarded progress and caused changes of architects, whose different designs may still be seen by the student. Having no money to waste, every endeavour was made to make the new work correspond with the old as much as possible without pulling down any of the latter.

The cathedral consists of choir, choir aisles, central tower, nave, nave aisles and north and south transepts, with chapels attached to each transept. The exterior length is 234 feet 6¼ inches, with an exterior width of 101 feet 4 inches, both including the plinths. The interior width of choir and aisles is 47 feet 5½ inches, and that of the nave and aisles 44 feet 10½ inches. The height from the floor to the top of the weathercock is 133 feet 4 inches. There are three doors in the west front, one in the north nave aisle, one in the south nave aisle and one in the south transept. Six different kinds of stone have been used—dark grey slate, red sandstone, dull-red sandstone, lilac sandstone and yellow sandstone. These different colours make very effective decorations, and have been more employed upon this cathedral than perhaps upon any other in Britain. There is a very beautiful example of this style of ornamentation in the main entrances at the west front, the south door having radiating and the other two concentric bands of red and yellow sandstone. In the east end there is a magnificent "wheel" window, which Sir Henry E. L. Dryden considers is probably unique. The "wheel" extends from side to side over four lights in a pointed window. It is in this window that the late Sheriff Thoms, in making his handsome bequest for the restoration and preservation of the cathedral, desired that the stained-glass window to perpetuate his memory should be placed. He suggested that a three-light window be used, but it is to be hoped that no structural alterations will be made to deprive this window of its beauty.

There are four bells, three of which are hung and used. They were gifted by Bishop Maxwell, son of Sir John Maxwell, of Pollok. When James V. made his Royal progress through the islands, he lived with and was highly entertained by the bishop. The bells were cast in Edinburgh Castle by Robert Borthwick, master gunner to James IV. He was one of the few who escaped from the battle of Flodden. The tones produced by the bells are G ¼ tone sharp, A ½ tone sharp and C ¼ tone sharp. The order of ringing is C A A A A C G G G G C A A A A C G G G G.

The splendid preservation of the building is due mainly to its isolated position. Far removed from the scenes of religious spoliation which broke out at Perth and spread throughout Scotland, resulting in the destruction of many religious edifices, the cathedral has suffered little or nothing at the hands of the iconoclast. The Pentland Firth with its stormy tides arrested his progress northward, and the noble building was saved. In the year 1612 it had a very narrow escape from destruction. In that year Patrick Stewart, Earl of Orkney, was a prisoner in Dumbarton Castle, charged with the crime of high treason. He incited his illegitimate son Robert to try and regain the earldom. On arriving in Orkney Robert seized the castle of Kirkwall and the cathedral. The Earl of Caithness was sent to quell the rebellion, which he did after a strenuous defence on the part of Robert. The castle was dismantled, and to wipe out an old grudge which the Caithness men bore against the Orcadians, the Earl of Caithness "went about to demolish and throw down the church (cathedral), bot he was with great difficultie hindered and stayed by the Bishop of Orknay (Law), who wold not suffer him to throw it down." On January 9, 1671 the spire was struck by lightning. "Quhilk day ther happned ane fearfull and sad accident in this place, to the great astonishment and terrification of all the beholders, by thunder and lightning which fell upon the steeple heid of the cathedral kirk of Orknay called St. Magnus kirk of Kirkwall, and fyred the samen which brunt downewards until the steiple heid, thrie loftings, and all the timber-work pertaining to the bells and the knock house wer consumed to ashes." Every endeavour to save the cathedral and the bells was made by the Kirkwallians, assisted by the bishop. "Salted hyds" were spread upon "the highest lofting of the steeple and the bells," and a large quantity of earth was placed under the tower to save the bells if they fell. They did fall, but in consequence of the precautions taken one only was broken. Four months afterwards the "salted hyds" were paid for. "A merchant declared, that when the steeple heid was fyred, at the request of the magistrates he sent 17 salt hyds, which were laid upon the highest lofting of the steeple and bells, and that seven of them were brunt and ten damnified, and desyred payment therefor, viz. £18 Scots. My Lord Bishop and session ordains him to be paid of the first and reddiest that the thesaurer receaves"

It has been damaged by fire; it would have suffered from strangers under the Earl of Caithness if he had had his wishes carried out, and it has been degraded by its own citizens. In 1701 the magistrates converted the building into a guard-house during the annual fair, which is so picturesquely described by Scott in "The Pirate." The Presbytery stoutly protested against "keeping guard within the church, shutting of guns, burning great fyres on the graves of the dead, drinking, fiddling, pipeing, swearing and cursing night and day within the church, and when the clergy were at exercises within it; neither can the preacher open his mouth nor the hearers conveniently attend for smoke; yea, some of the members of the Presbytery have been stopped in their outgoing and incoming to their meetings, and most rudely pursued by the souldiers with their musquets and halberts." A few years afterwards the tables were turned, and clergymen were caught disgracing the cathedral. One was charged with taking his horse through the church to grass in the churchyard, while another "not long ago caused tye his horse to a pillar within the church, where he stood all the time of the sermon. In our Saviour's days God's house was made a den of thieves, and now these people make it a stable for their horses."

There have been many disputes regarding the ownership of the cathedral. Claims have been made by the Church on several occasions, by the Earl of Morton, to whom a grant of the Earldom of Orkney had been made by King Charles I. in 1633, and by the Town Council of Kirkwall. It is now generally acknowledged that the Town Council is the custodian of the fabric, and in this year's statement of its accounts it appears as an unpriced asset in the common good account. Well might no price be put upon it. It is the jewel of their crown. Let them guard it well

Great difficulty was experienced in keeping the cathedral in repair. Anxious were the thoughts of its custodians from time to time, and many references to this may be found in the Sessions Records. Under date of November 7, 1647, we find:—

"In presence of the ministers and elders of the kirk of Kirkwall convened for the tyme, Compeared Patrick Smyth of Braco, and in name and behalfe of the town of Edinburgh, delivered the sowme of two hunder pounds money into the session of Kirkwall, to be employed for repairing of the fabric of the quire of the said church and desired an act of Session upon the deliverie of the foresaid sowme for his exoneration: whilk was most willinglie granted with many thanks unto the said town of Edinburgh for their special care of the said kirk, hoping that they would continue the same in tyme coming."

At this time the town of Edinburgh was lessee of the bishopric lands in Orkney. Needs were pressing, and the pious hope expressed in the foregoing extract had been overlooked, as we find in the following petition to the town of Edinburgh :—

"To the Right Honourable the Provost, Baillies, and Council of the Good Toune of Edinburgh, the Humble Petitionne of Patrick Craigie, ane of the Bailies of the Brugh of Kirkwall in Orkney for myself, and in name and behalf of the remanent of the Magistrates and Counsell of the said Burgh, and Elders and Kirk Session of the samein ; Sheweth, That qr, the said church of Kirkwall being one of the greatest fabricks in this natioune, and the povertie of the said burgh (in respect of these late warres, both intestine and forraine) being so great that we are not able to uphold and menteane the fabrick thairof ; and the forsaid church being the cathedral church within the bishopric of Orknay, and being formerlie upheld and menteaned be the Bishops out of the rents of the said bishopric to which your honours have now right, and doth now uplift ; and in considderatioune therof your honours did of late appoint some supplie for repairing therof, of qlk accordingly we did apply for that use, with ane considerable soume more, collected and ingathered among ourselves ; and now since the samein is lyklie to go to reuine throw the tempestous weather hes bein the last winter and preceiding yeare, and our great povertie, without your honours remead the same by giving some supplie for repairing and menteaning therof, May it thairfore please your Honours to grant warrant to your Thesaurer heir, or utherways to your Tacksmen of the said Bishopric of Orkney, for giveing such supplie to us for repairing and menteaning of the said church, as your Honours shall think fitt, which will onlie prevent the aparent ruine of the said church, bot sall ingadge us continuallie to pray for your Honours, &c. (Signed) Patrick Craigie, 30th March, 1659."

Every effort was made to get funds, but not from Edinburgh only. In the year before the above petition was sent to Edinburgh the Justices of Peace within the shire of Orkney received "The Supplication of the Ministers, Bayliffs and Town Council of Kirkwall," part of which is as follows :—

"Whereas it is not unknown to the most part of this honourable meiting that in tymes past, speciallie in the late Bishopes tyme, it was provided, that the great fabrick of our kirk suld be menteaned and supported, partlie by the Bishop out of his revenues, and partlie by the fynes of all adulteries, as occasion offred throughout the whole countrie, both mainland and yles ; . . . but, since the reducing of Episcopacy, we have had no supplie, nether on way nor yther, for upholding the fabrick of our kirk ; and so having nether sett-rent nor rent alloted for the same, and being altogether vnable to mannage the work of ourseves, off necessities it must ruine vnles some seisonable supply be provided."

In 1770 a memorial was prepared on behalf of the Magistrates, Council and Community of Kirkwall, the Heritors of the county of Orkney having interests in St. Magnus Kirk in Kirkwall, and the Presbytery of Kirkwall, and sent to the Barons of His Majesty's Court of Exchequer along with a view of the church. After giving a lengthy description of the cathedral, it states :—

"This is the only cathedral remaining in Scotland, except St. Mungo's in Glasgow. That it has been supported for above these 70 years past by burials, mortcloths, bills, marriages and other small perquisites not exceeding 10*l*. a year, communibus annis, or thereby ; that this fabric is very old, having been built anno 1138, but is now likely to become ruinous for want of a proper fund to support it ; and unless such a fund be soon raised for said purpose, this ancient fabric must soon suffer greatly, if not decay altogether : That your petitioners have been credibly informed, your Lordships have been pleased to allow a certain sum for the reparation and yearly support of St. Mungo's Church in Glasgow out of the Bishop's rent in Scotland. They would therefore humbly hope from the merits of the present case, and the inability of this town and county to support said fabric, your Lordships will be pleased to allow something for the immediate repair of said church, and such a yearly sum as may be judged necessary, to be paid out of the Bishops' rents or any other funds your Lordships may think proper to allot for keeping the said church in repair in time coming."

No permanent fund for the upkeep of the cathedral was available until 1805, when Gilbert Meason of Moredon bequeathed 1,000*l*, the interest of which was to be spent on the upkeep of the building. Meason was a relative of Malcolm Laing, the historian, who was one of Kirkwall's distinguished sons, and it was at Laing's request that Meason bequeathed the money. It has been well administered in keeping the fabric wind and water-tight. A few years ago a similar sum was left for the same purpose by Francis Taylor, a member of an old Kirkwall family.

In addition to the patron and founder of the cathedral, many illustrious men have been buried within it. William, the first Bishop of Orkney, who consecrated the cathedral, and accompanied Earl Rognvald on his pilgrimage to the Holy Land, was buried near the grave of St. Magnus. Captain Patricio Antolinez, who commanded on board *El Gran Griffon* the ship of the Spanish Armada which was wrecked at Fair Isle (midway between Orkney and Shetland), Earl Robert Stewart, William Douglas, Earl of Morton, and Dr. John Rae, the Arctic explorer, who was the first to bring definite news of the fate of the Franklin expedition, are all interred within its walls. Mural tablets and stained-glass windows have been erected in memory of several well-known Orcadians. King Haco of Norway, on his way home from the battle of Largs, sickened and had to be landed in Orkney. He lay for some time in the Bishop's palace, and, on his death there, his body was laid in state in the cathedral until its removal to Norway for burial.

WIMBLEDON COMMON.

On Monday Mr. Richardson Evans, hon. secretary of the John Evelyn Club, gave, in the Hubert Road Institute, South Wimbledon, a lecture on "The Early History of Wimbledon Common" He first dealt with Wimbledon Common in the Saxon times. The entrenchment called Cæsar's Camp was an old British camp, but it was no doubt there when Britain was invaded by the Saxons. Within a comparatively recent period oaks stood round the entrenchment, but they were cut down by the owner of the soil, who was offended with the Conservators. One of the objects of the John Evelyn Club was to prevent this kind of thing being done a second time. On a recent holiday he went down one of the new roads on Sir Henry Peek's estate, and, for the first time in all his long experience, he saw a beautiful view of London, including the noble pile of Westminster Abbey and the Houses of Parliament. Having pointed out that the ancient Britons were anything but barbarians, and that there was a great deal of civilisation in the Wimbledon Common of those days, Mr. Richardson Evans compared the physical conditions of the locality in that time with those of to-day, and afterwards he spoke of the old feudal system which obtained. Having amused his hearers by some excerpts from the records of the Court of the Manor of Wimbledon in the reign of Edward IV., he said that, about forty years ago, Lord Spencer proposed to enclose Wimbledon Common, but was successfully resisted by a number of residents, who bought out his manorial rights. All that was done at great sacrifice and labour. Those spirited gentlemen not only saved Wimbledon Common for Wimbledon, but for the whole of London. The Commons Preservation Society owed its origin to those residents, who became its first members. If we were on any breezy common in Kent or Surrey, we should think of Wimbledon, at which a great dispute was settled in favour of the people.

TESSERÆ.

Italian Gothic.

Few things are more curious than the absolute inability of the Italians—the most shrewd and subtly gifted people of their day, and saturated with the artistic sense—to grasp the spirit of Gothic architecture. Certain Gothic forms, indeed, they adopted ; they pointed the openings with which, in obedience to their native instincts, they sparsely pierced the broad spaces of their walls ; they made liberal use of crockets and unmeaning pinnacles ; they accepted the vault, which is called the formative principle of Gothic building, but to the seed of life that lay in the principle of the vault they remained blind. An organism sustained by the balance of living forces, clothed in forms arising out of and expressing its constructive principle, and enriched with decoration emphasising it, must not be sought at the hands of the Italians ; indeed, in the matter especially of external decoration, the use of the style seemed at times to paralyse their wits ; for let no delight of yellow marbles, no perfume of pleasant association, blunt your sense to the unfathomed foolishness, for instance, of their too frequent treatment of the façades of churches—witness amongst others that of San Michele at Lucca, which, towering by a third of its height above the building it masks, fitly expresses the vertical division of that building by innumerable rows of small colonnades piled in horizontal profusion one on the top of another.

English Scene Painting.

During the reign of George III. scene painting in England was cultivated with great success. This is to be ascribed to various causes ; amongst others to that universal rage for dramatic exhibitions which gave birth to many provincial and minor theatres, to the prevailing taste for pantomimes, melodramas, burlettas, operas and other stage compositions more particularly addressed to the imagination, and which owed their popularity to splendid spectacle. For many years the name of Richards was constantly printed on the playbills. His scenery for the "Maid of the Mill" delighted the town, and rendered that piece so popular that two very clever prints from line engravings were published from certain scenes exhibited therein, which had a great sale and contributed much to his general reputation. Bowles and Carver were also esteemed for their talent in the same walk of art. The younger Catton, too, obtained celebrity for similar works, as did Capon and many others. When the Panthéon was converted to a theatre for the performance of the Italian opera, Hodges, a distinguished pupil of Wilson, was employed there as principal scene-painter, and the stage effect owed much to the picturesqueness and romantic character of his designs and the vigour with which they were executed. Many other painters of celebrity occasionally furnished designs for scenes, amongst whom were Hogarth, who painted a camp scene for a private theatre, and Zuccarelli, who designed for the Opera House. Garvey, too, was of the number. Cipriani, Rebecca, Hamilton, the elder Catton were employed in designing and painting decorations for most of the metropolitan theatres. It may not be known to many, perhaps, that the whole ceiling of the first theatre in Covent Garden was superbly painted with allegorical subjects selected from heathen mythology from designs by Amiconi. This ingenious foreigner also was employed in decorating with his designs the walls and the plafond of the magnificent old staircase of Buckingham House. Many of the minor theatres supplied occupation for ingenious artists whose talent for scenic representation delighted crowded audiences for years in succession, but whose names have not survived their works. The late Charles Dibdin, the lyric bard of our "wooden walls," in conjunction with Dighton, a favourite performer at Sadler's Wells, furnished the scenery for a fantoccini entitled the Patagonian Theatre, which was erected in the great room over Exeter Change. There the regular drama was played by puppets of about 14 inches in height, and Dibdin and Dighton, with other actors, spoke and sung the parts for the automatons to the great delight of the town.

Architects and Sculpture.

There are some who affirm that there are not many arts, but only one art; that a painter should be architect and sculptor as well, and a sculptor, architect and painter. No doubt it would be better if it were so, and to a few exceptional men it has been given to succeed in the three great branches; but for most, "Art is long and time is fleeting." Still, there is no denying that it is an advantage to have a knowledge of the other arts. When architecture plays a subsidiary part to sculpture, as in monuments generally, then it is without a doubt a great advantage to the sculptor to be able to design his own architecture—the framework of his figures, his pedestal, &c.—that the work in its full completeness may have the stamp of one mind. Two important instances where this has been the case are the famous shrine of St. Sebald, by Peter Vischer, at Nuremberg, and the Wellington Monument in St. Paul's Cathedral by Alfred Stevens For the same reason in architecture proper, when the building is the main thing and the sculpture its adjunct, as is in most instances the proper relationship, it does rest very materially with the architect to know and decide upon the fitness of the decoration, in order to insure the completeness of the whole. Thus the character of the sculpture, the choice of relief, the severity or freedom of the modelling, and also in a great measure the choice of subject should be in his hands, in consultation, of course, with the sculptor employed. It may not be necessary that he should know how to model or carve, but he should know when the work is well done and whether it is fitly designed—in fact, true art—and not, through lack of knowledge or taste, be content with what is too often called decoration. Therefore, when good sculpture is to be seen either on the outside or forming part of the internal decoration of a building, it reflects as much credit, or even more, on the architect as on the sculptor.

Early Stained Glass.

At what period stained glass was first introduced into the houses of kings and nobles of England cannot be precisely ascertained. Are we to consider Chaucer's account of the story of the siege of Troy, as painted on the windows of his own house, to be a proof that such embellishments were usual in the fourteenth century? or is it to be considered as the other parts of his "Dreme," and merely imaginary? Charles V. of France, Chaucer's contemporary, ornamented not only his chapels, but the apartments of his castles, with stained glass. The most ancient painted glass now remaining in England is in the cathedral of Canterbury. The windows are of the simple pointed form, and have small mosaic patterns, squares and diamonds, in faint colours. Some of the same kind and age were at Salisbury. At York are histories from the Old and New Testaments, placed there in the reigns of the two first Edwards, and probably those first attempted in this country. Beautiful mosaic patterns are to be seen at Tewkesbury and Bristol Cathedral. As the windows increased in dimensions the single figures were portrayed as large, or larger, than life. The great east windows at Gloucester and Winchester were embellished with whole-length figures of kings, prophets and bishops. The former is much mutilated, but in the latter (so late as 1715) there were mostly entire figures to be discerned. The cloisters of the cathedrals and greater abbeys were generally adorned with stained glass, not frequently with figures or histories, but with moral sentences or texts of Scripture, written upon scrolls in the Gothic characters. Such were more appropriate to a part of the sacred structure immediately dedicated to exercise and religious contemplation. A favourite subject was the genealogy of Christ, called in old descriptions of abbey churches a "Jesse." That patriarch of the House of David is represented as lying on his back, and a large tree taking root in him. It bears each individual of the pedigree, and the Virgin and Child as the fruit of the topmost branches. The armorial ensigns of founders and benefactors were first attempted in separate escutcheons before they were imitated upon the tabards or court dress of the times. When portraits have been stained on glass, although many have been demolished, they have had a better chance for preservation than those on panel or canvas. In several churches a genealogical series of their benefactors was placed, some of which have survived, in an imperfect state, the decay of time and the rage of fanatics Walpole denominated two crowned heads, which he procured, Henry III. and his queen, and many with curled hair and forked beards are said to represent the Edwards, Richard II. and Henry IV. from that fashion prevalent in their reigns and remarkable on their coins, which circumstance, on a cursory view, may justify the surmise. Generally speaking, the whole-length figures with crowns and sceptres are imaginary Jewish monarchs, connected with some scriptural history. They are universally so when exhibited in profile. Bishops and abbots may be supposed to be portraits by fair conjecture; they are distinguished by their holding the crozier in their right or left hand, the former only performing the office of benediction. It is evident that stained glass, and probably that of more exquisite design and colouring, because a much smaller size was required, was introduced into the interior of churches. The sepulchral sacella of Bishop Fox in Winton and of Prince Arthur in Worcester cathedrals were so glazed. Without doubt there were earlier instances of this application.

Book Illustration.

The Exeter painter, Francis Hayman, considered as the father of the English school of painting, may also be placed at the head of the English school of design His works as they appear in book-prints are numerous; and though in a style evidently of French extraction (if such an expression may be allowed), possess a rich vein of originality united with the qualities of character and composition. At this time the names of Wale, Gravelot, Vanderbank and Hogarth appeared to works of this class; the last but in few instances; nor would his talents this way have elevated him above his contemporaries, had not his genius struck out a path which distinguished him as a painter, and placed him at once in the first rank of his profession. The name of Sir James Thornhill is affixed to a quarto-sized frontispiece, but in a style far more chaste and dignified than those of his contemporaries; for in many instances it is difficult to distinguish (without the help of the name) the works of one of the above-mentioned artists from the other. These artists embellished the works of Milton, Pope, Addison and Smollett. The designs for a quarto edition of Don Quixote, by Vanderbank, are replete with humour and character, though less skilfully composed than those of Hayman. The name of Highmore and that of Anthony Walker, an engraver, will be found as designers in several publications of their day; the latter gave designs engraved by himself to a quarto edition of Shakespeare, published by Lowndes. Many of these are in a style of art that would not have disgraced the pencil of Hayman or other of his contemporaries. The heathen mythology appears to have been in great request with our ancient artists, and allegory was not neglected to show the character of the publication. Was a book of angling to be embellished or illustrated—the frontispiece exhibited river-gods and naiads. If a book on hunting—Diana and her train were sure to appear. The poem of "The Chase" is frontispieced in this way. There was certainly an affectation in bestowing such a classical dress on such subjects; yet as far as composition was concerned, it exercised all the powers of the artist in grouping and arranging his subject. The style of drawing, as well as the character of the subject, became gradually improved; more of grace was thrown into the figure, a better cast of drapery was adopted, and this alteration was principally effected by the introduction of the works of Cipriani and Angelica Kaufman into these publications. Their designs to books, as well as for cards and tickets, gave a tone to the public taste; and the style of the French school, which had pervaded the English, was superseded by that of the Italian.

NOTES AND COMMENTS.

It occasionally happens in towns and often outside them that the footway is at a higher level than the roadway for carriage traffic. Generally a railing protects pedestrians from accidents. If, however, there is nothing of that sort, is the corporation, town council or local authority responsible for the consequences? A case of the kind has been going the rounds of the Scottish Courts. A man who was eager to reach an omnibus in Great Eastern Road, Glasgow, not being aware that the footway was nearly 6 feet higher than the roadway, was injured by falling that height. He claimed 500*l.* damages from the Corporation. The defence was that no obligation to set up a barrier existed, that the road was sufficiently lighted and that the difference of level had existed during more than half a century. The jury found for the plaintiff and assessed the damages at 50*l.* The Corporation appealed and applied for a new trial. Three of the judges were in favour of the verdict of the jury, for, as one of their lordships remarked, "the duty of magistrates was exactly the same as the duty of other persons having possession, occupation and control of property, and that was to take reasonable precautions for the safety of those who used it." Lord M'Laren took a different view of the responsibility incurred. His lordship said there was no uniformity in fencing similar places, and there could be no general rule that a pavement was to be fenced whenever it was considerably above the roadway level. It was a matter to be decided by the judgment of the authorities. In towns the need of special protection was exceptional, but in the country it was different, for the County Councils would become bankrupt if it were laid down that every elevation should be fenced. The opinion of the majority, of course, prevailed. The difference is suggestive of the change of opinion which is taking place in Courts. Public authorities are by some judges no longer regarded as if they possessed an immunity from incurring the consequences of neglect of duty. Common principles are applied. Auditors will not approve of certain expenses, although they were incurred for the service of the public, and the hesitation to add to the expenditure may also be treated by the Courts as wrong-doing. The Glasgow judgment can therefore become a lesson to all municipal authorities.

We have several times noticed cases in which the implied conditions under which building estates are sold in parts are not always carried out. It generally happens that when land is supposed to be adapted only for private residences of a high class very big prices can be obtained from those who wish to erect houses. Sometimes there are intermediaries of various kinds, entailing transference of leases, and the cost of the site is therefore much greater than was originally contemplated. In such instances, when an action is taken for the appropriation of sites for purposes which could not be called "residential," in the ordinary sense of the word, the Courts somehow take a view which is usually unfavourable to the objectors. The utilising of a costly house for lodgings or as a private hotel, or as a mansion for paying guests, a surgical home or a private hospital, would at one time be considered as a breach of the conditions of contract for an important building estate. Now it is otherwise, and it will be found that the earliest applicants for houses in eligible districts are people who wish to use them for business purposes. Attempts to uphold the original intentions generally end in failure. One example was heard a few days ago in the Court of Appeal. The Parkfield Estate, in the suburbs of Liverpool, was always treated as a high-class building estate, and there was a covenant against carrying on or permitting any art, trade, business or purpose which would interfere with its character. One of the largest houses was, however, about to be transformed into a nursing home for paying patients. An application was made in the Vice Chancellor's Court of Lancaster to restrain the defendants from carrying out their proposals. The residents raised the usual objections about the risk of contagion, the depreciation of property, and the inconvenience of encountering invalids. The application was dismissed, and the same fate awaited it in the Court of Appeal. A feeling of insecurity is arising which must have a very serious effect on the most valuable class of house property.

ILLUSTRATIONS.

BURLINGTON BUILDINGS, ORFORD PLACE, NORWICH.

The view illustrated to-day was selected from three schemes submitted by the architect, Mr. J. Owen Bond, of 15 Upper King Street, who succeeded to the practice of the late John B. Pearce, F.R.I.B.A., in April last. Owing to street widening caused by a tramway scheme a considerable amount of demolition of property was necesary, and this building will occupy the only site remaining vacant surrounding the recently formed Orford Circus. On the ground floor there will be three well-lighted lock-up shops, and in order to obtain the necessary floor lights to the basements the shop fronts will be set under the main building 2 feet 6 inches, as it was impossible to arrange reasonable terms with the Corporation for placing them in the public pavement. The first and second floors will be arranged as offices, approached by a central staircase leading from a bold doorway towards the street. There will be ample lavatory accommodation on each floor, with special provision for principals while in the building. The third floor will be devoted for caretaker's quarters and book and paper stores. The main façades will be erected in stone or dragged-face terra-cotta, with granite pilasters on ground floor, green slate covered roofs, and the walls of lavatories and areas will be lined with Crystopal tiles. The ground, first and lavatory floors, and the staircases between them, will be of corcrete construction, and the landings and lavatory floors will be laid with mosaic paving.

ROMAN CATHOLIC CATHEDRAL, WESTMINSTER: LOOKING ACROSS NAVE TO WEST SIDE FROM GALLERY.

CHURCH, BUSH HILL PARK.

The illustration is from the design for the above church, which was submitted in limited competition by Messrs. Newman & Newman, F.R.I.B.A., of 31 Tooley Street, London Bridge, S.E. The plan was designed to accommodate 602 persons, of which number the nave seats 538 and the chapel 64. As will be seen from the plan the church was designed with a very large nave, so that all the worshippers could be seated therein, and thus obtain a view of the chancel and pulpit unobstructed by columns. The aisles are thus merely passages to and from the seats. The other provisions made were for a choir and also for clergy vestry, ambulatory, with organ over baptistery and, as before mentioned, a chapel. The heater chamber was placed below the choir vestry. It was proposed to build the church with Ham Hill stone outside, with York stone dressings, and inside red bricks and stone. The estimated cost of the building, including architects' fees and clerk of works' salary, was 12,000*l.*

BRATTLE'S, BRENCHLEY, KENT.

Brattle's Farm is one of the many sixteenth-century buildings to be found in Kent. The accompanying illustrations show the existing building, and the proposed alterations and additions which are now being carried out to convert the same into a residence for Mr. J. Hay Edwards. The elevations of the existing building are not to be interfered with any more than possible, and the additions are designed to match the present in every detail. The timbering to the external walls of the additions will be executed in old oak taken from the old farm buildings, which are being demolished, and the new walls will be faced with old red bricks, and the roofs covered with the old tiles (which are green with age and vegetation), so as not to destroy the picturesque appearance of the present building. The hall and dining-room ceilings are to have the plaster stripped, and the old oak beams and joists cleaned and exposed. The staircase is to be of fumigated oak, and the walls of the principal rooms on the ground floor will have oak panelling. All doors on the ground floor will be also of oak. The old fireplace in the centre of the building is being reconstructed to form an open fireplace in the hall and an ingle in the dining-room, each being fitted with wrought-iron dog grates and hoods.

The work is being carried out from the design and under the superintendence of Mr. Albert C. Freeman, architect, of Clapham, the same being executed by local builders upon a fixed scale of charges, as it was found practically impossible to fix a contract, there being so much unseen work.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last, Mr. John Slater, B.A, vice-president, in the chair.

The Honorary Secretary, in announcing the decease of the ate Mr. H. Saxon Snell, said he was elected a Fellow in 1873. He had an extensive practice in connection with various metropolitan boards of guardians and other public bodies. Mr. Snell was particularly identified with the building of infirmaries, workhouses, casual wards and like buildings in and about London. He had retained to the last a keen interest in all matters relating to the planning and ventilation of hospitals.

Award of Medals and Studentships.

The following results were announced :—

Institute Silver Medal and 25 *Guineas* (Essays).—Subject—"The Delineation of Architecture." The medal was not awarded. Eight competitors had entered, and a medal of merit and 10 guineas was awarded to Mr. C. Batley (Ipswich).

Institute Silver Medal and 10 *Guineas* (Drawings).—Subject—"Measured Drawings of ancient buildings in the United Kingdom or Abroad." Among the twelve competitors Mr. L. M. Gotch (West Ealing) secured the award. Certificates of merit were gained by Messrs. C. Lovett Gill (Regent's Park) and G T. Salomons (Manchester).

Soane Medallion and 100*l* (for Continental travel).—Subject—"Design for a university theatre on an open site." Fourteen competitors submitted strainers, the award going to Mr F. J. Horth (Hull), Mr. David Smith (Dundee) being honourably mentioned.

Owen Jones Studentship : Certificate and 100*l.* (for travel and study of colour) — Applications and drawings were received from five competitors Mr. W. Davidson was successful, a medal of merit being awarded to Mr. H. Morley.

Pugin Studentship : Silver Medal and 40*l.* (for travel in the United Kingdom)—Three applicants submitted sets of drawings. Mr F. C. Mears gained the award and Mr. W. S. A. Gordon a medal of merit.

Godwin Bursary : Silver Medal and 65*l* (for travel outside the United Kingdom).—This bursary only attracted two applications. Mr. H. Phillips Fletcher gained the award.

The Tite Prize : Certificate and 30*l.* (for travel in Italy).—Subject—"Design (according to the principles of Palladio, Vignola, Wren or Chambers) for a crescent in a large city." There were eleven competitors, Mr. Heaton Comyn (London) being successful. Mr. A. D. Nicholson (Glasgow) was awarded a medal of merit.

The Arthur Cates Prize : Forty Guineas, was not gained by any of the four competitors. Mr. F. Winton Newman was awarded twenty guineas and Mr. Baxter Greig a certificate of honourable mention.

Grissell Gold Medal and Ten Guineas (for design and construction)—Subject—"Design for a timber spire or lantern termination to a tower." Mr. James W. Hepburn (London) was successful among fourteen competitors, a medal of merit being awarded to Mr. A. J. Barclay (Aberdeen).

The Ashpitel Prize was awarded to Mr. F. Winton Newman (London).

Mr. J. Starkie Gardner read a paper entitled

Lead in Architecture.

He gave details of the lead-mining industry in Britain since the earliest times, and referred to the use made of the metal in architecture by the Greeks in the Mycenæan period The metal, he said, has specially valuable properties that distinguish it from all other metals. Capable of producing the most delicate and lace-like effects, or of covering with an impervious sheath the most extensive buildings, it equally defies the ravages of time and the corroding influences of air or of water. It succumbs to the attacks of fire alone. Under the murky pall of our great cities its hue deepens to a sombre black, but if weather-beaten in purer air it oxidises to a silvery white, producing contrasts of light and shade which are exquisitely beautiful. Formerly richer effects were obtained by gilding and painting in chevrons of colour or powdered devices, or by varying the surface with inlays of tin, or incising patterns and filling them with minium, white oxide, or black asphaltum. It quickly tarnishes, but freshly melted or cleaned its surface is lustrous as silver, and this might perhaps be preserved by coating it with vitreous glaze dissolved in fluoric acid.

The Greeks first applied lead decoratively in architecture An Ionic capital from the Temple of Ephesus, in the British Museum, has its volutes inlaid with a fillet of lead. The idea of inlaying lead into stone may have reached the Anglo-Briton, the most expert metal-worker of that time, from the East. William of Malmesbury describes an ancient pavement in Glastonbury Abbey as formed of "stones designedly inlaid with triangles and squares and figured with lead." The finest existing example of fourteenth-century work is that now in the cathedral of Rheims. A sparing use of lead was made in ceilings and vaultings, where the gilded stars are of lead. The pomegranate pendants and leaves at the intersections of the geometric ceiling to Cardinal Wolsey's cabinet at Hampton Court are of lead, like the enrichments to the ceiling of the Chapel Royal, St. James's. Windows, like those in Salisbury Cathedral, often depended for the decorative effect entirely on the grace and intricacy of their leaded lines. Beautiful plaques of perforated lead, usually lozenge-shaped, but sometimes square or round, replaced one or more of the quarries of a window for ventilation ; they are met with in considerable variety in the offices and corridors of Tudor buildings, such as Hampton Court and Haddon.

The simplest and most natural method of using lead decoratively is to cast it in moulds. The Romans first employed a method of decoration used later by Sussex and other Mediæval ironfounders. Small objects in relief, such as escalloped-shells, beaded rods, plain rings, &c., were impressed as decoration into the beds of sand upon which the sheets were cast. Some richly-decorated lead coffins were found under the pavement of the Temple Church.

The author touched on the uses of lead in relation to the plumber's craft, which was first mastered on a grand scale by the Romans. In England lead pipes have been found in Roman foundations, and at Bath is a massive water channel of lead an inch thick. Water was brought into London houses by lead pipes for the first time in 1582 by Peter Morris, a Dutchman. Leaden spouts for relieving the gutters formed at times a picturesque feature in Mediæval buildings Of greater interest were the conduits or central distributing fountains which generally occupied some accessible place in one of the courts of every princely dwelling. Most of these were under canopies, and lead entered very largely into their construction. The decorated tank or cistern for storing rain-water may be of great antiquity, the earliest preserved of the sixteenth century bearing "E. R." and the royal arms. The author referred to several specimens of sixteenth-century elaborately-decorated heads to rain-water pipes. In the old artistic days even the pump was made a vehicle for decoration, like that formerly in Leather Sellers' Yard, which was surmounted by a mermaid pressing her breasts, out of which wine ran on State occasions.

In the seventeenth and eighteenth centuries much of the purely decorative statuary produced in England was of lead, especially the massive equestrian statues, the first of which, that of Charles I., by Hubert Le Sœur, was cast near Covent Garden in 1633 and erected by Charles II. at Charing Cross in 1674. The statue—horse and man—is still the finest we possess. For the garden lead reigns supreme. Softer and greyer in tone, more yielding, less costly and less pretentious than bronze or marble, lead seems, above all other materials, to lend itself to the garden. An instance was referred to of four or five score of leaden statues dispersed over a gentleman's extensive grounds. They consisted of reproductions from the antique of eighteenth-century renderings of gods and goddesses, and of more modern subjects, such as musicians, dancers, mummers, skaters, shepherds and shepherdesses, gardeners, &c, in contemporary costume—the latter group by far the most interesting.

As regards lead architecture, Eusebius speaks of lead roofs in the third century, and the domes of the Holy Sepulchre and St. Sophia are still so covered. The roofing in the seventh century of the church of York with lead by Wilfrid, and the sheathing of that of Lindisfarne by Eadbent, both walls and roof, must have been new and unusual occurrences to have been chronicled by Bede. The development of Pointed church architecture in the thirteenth century afforded much scope for a display of leadwork. The roofs rising to a great height and becoming increasingly rich with turrets, flèches, crestings, finials, buttresses, parapets, crockets, gargoyles and, above all, the lofty steeples, often clustered in threes, as at Lincoln, Ripon and Canterbury, absorbed more lead and afforded greater areas for display than ever. In France the lead roofs appeared to form almost half, and by no means the least picturesque half, of many of the great sacred buildings. The laying of the lead in strips vertically or diagonally formed, with their rolled overlaps fretted, lines of shadow on the bleached white surfaces. Stowe describes the bell-tower of the Priory church of St John as "graven, gilt and enamelled, to the great beautifying of the city, and passing all other that I have seen."

The Palace of Sheen, rebuilt by Henry VII., seems to have been the earliest revival of great displays of lead in Domestic architecture in England, since the roofing with lead of a building earlier in the century had resulted in its being distinguished as Leadenhall. The roof of Richmond Palace was a forest of turrets, octagons, pinnacles and finials, gold and azure, with the King's arms and vanes surmounting them. Special ornaments to the building were the turreted lanthorns over the great hall, the clock-case at the west end, the lanthorn leaded and embattled with fourteen turrets over the privy lodgings, a round structure four storeys high, called the Canted Tower, embattled and all covered with lead ; besides the chapel, Queen's and Prince's closets, hall, middlegate and kitchen, decorated, embattled, covered with lead and all equal "special ornaments" of the building. The palace at Hampton Court, though not completely destroyed like Richmond, is shorn of the lead-covered cupolas, octagons, turrets and louvres, bedecked with finials and pennons, all glittering in gold and armorial bearings, which rendered it the most attractive sight in all England.

But it was only where timber framing entered largely into the construction that the lead was carried down below the roofs and a truly lead architecture could be revived. The rural retreat of Nonsuch, a veritable palace of lead, dazzled the imagination and baffled description. The stanchions and outposts of the banqueting-hall, three storeys high, and its lanthorn, were "all covered with lead, as were the whole of the wooden battlements, perhaps, like those at Windsor, the great grace and special ornament to the whole building." The upper storeys, at least, were "butted round with frames of wood, covered with lead," and these, with the turrets, water-tower, clock-case, &c., "are the chiefe ornament of the whole house of Nonsuch." But for the intrinsic value of its materials, especially the lead, the palace might not have perished.

In 1491, Thomas Wood, a goldsmith and sheriff of London, built a row of shops and dwellings in Cheapside, fronted with lead, which every chronicler speaks of as beauteous and glorious to behold. The front was gilded, and it was known as Goldsmiths' Row. Stowe describes it as the most beautiful frame and front of fair houses and shops in London or elsewhere in England. It contained ten dwelling-houses and fourteen shops, all in one frame, uniformly built four storeys high, beautified towards the street with the goldsmiths' arms and the likeness of woodmen, in memory of the founder's name, riding on monstrous beasts. All which was cast in lead, richly painted over and gilt. It was regilt in 1594 by Sir Richard Martin, Lord Mayor, and was destroyed in the Great Fire of 1666.

Mr. R. PHENÈ SPIERS, who proposed a vote of thanks to the author of the paper, said that throughout France there were to be found most beautiful lead roofs, gable ends and finials in such numbers that it seemed probable the French employed the metal for decorative purposes more often than we did in England. There seemed no restriction to size in the use of lead, for the speaker said he had seen in Rouen finials from 6 to 8 feet high. For certain features lead offered great scope in decorative treatment, and he hoped Mr. Gardner's interesting paper would help to revive an old English manufacture.

Mr. ERNEST GEORGE seconded the vote, supported by Messrs. MAURICE B. ADAMS, W. H. SETH-SMITH and E. W. HUDSON.

BRITISH SCULPTURE.

A LECTURE was delivered by Mr. M. H. Spielmann on Monday evening at the London Institution on "British Sculpture of To-day." In the course of the lecture many photographs of the finest work of our sculptors, past and present, were thrown upon a screen, including a photograph of Mr Brock's great model of the central monument of the Queen Victoria Memorial.

According to the report in the *Times*, Mr. Spielmann said that since 1875 or thereabouts a great change had come over British sculpture, a change so revolutionary that it had given a new direction to the aims and ambitions of the artist, and had raised our British school to a level unhoped for, or at least wholly unexpected thirty years ago. The awakening came from without, brought here and stimulated mainly by two Frenchmen, Dalou and Lantéri, and by two Englishmen who had studied abroad, Alfred Gilbert and Onslow Ford. Since then the whole conception of sculpture in the schools had been modified, and the spirit of enthusiasm had been set aflame It was difficult to realise how bad our sculpture was sixty or seventy years ago. Men of taste rebelled against our attempting to do honour to Nelson by "mastheading the Admiral" on the top of a prodigious column in Trafalgar Square, out of recognition and almost out of sight, and they laughed at what was considered an appropriate homage to the then Duke of York—elevating him to the top of another great pillar, with a lightning conductor through his brain, which it was declared would be very useful on which to file his unpaid bills. Ignorance of sculpture was confined to no class; it was to be found unhappily in the highest official class—in the Government circle, where appreciation was most earnestly to be desired, though, he was happy to say, not in the present chief of the Office of Works. As to a Ministry of Fine Arts, "the only way for a nation to obtain good art," said Ruskin, "is to enjoy it;" and assuredly a pretty safe way to secure bad sculpture would be to appoint a fine arts minister from among our distinguished politicians. Chief among the characteristics of the modern school was the effort towards such realism and picturesqueness of treatment as did not detract from th dignity of the conception. The public of course welcomed an approach to what was pictorial and amusing in subject treatment, not respecting the truth of Michel Angelo's axio that "the nearer painting is to sculpture the better it is, an the nearer sculpture is to painting the worse it is." Unt Alfred Stevens, no one in this kingdom thought of instillin real life and blood into the clay and marble, and not life onl but dignity and nobility of form and movement previousl unknown in British work. The great sketch for the Wellingto Memorial showed his constructional ability and the intellectua force of his imagination. Into the bitter debate on the proposed desecration of this supreme national treasure by a cleve young sculptor, a pupil of M. Rodin, he need not enter there Its one fault was a weakness not of construction, but of design the arched moulding, he held, being in appearance, but not i reality, too slight to carry the superincumbent mass. Ye even Stevens was powerless to influence very much the prevailing passion among our artists for wrestling with sculpture in the Græco-Roman manner. Thomas Woolner did no attempt a truly realistic subject till towards the end of his career, and then failed of complete success. The influence o Sir E. Boehm contributed somewhat to thaw the chilll, and Foley in his later years, in his epoch-making "General Outram," reminded the public that monuments need not be staid to dulness. Mr. Armstead, working in the spirit of the younger school, produced sculptural schemes of unprecedented magnitude. Mr. Brock soon felt the foreign current, and was courageous enough to modify his style when it was already formed. His masterpiece as yet was the monument to Lord Leighton in St. Paul's Cathedral.

He had been so fortunate at the last moment as to persuade Mr. Brock—much against his will, he feared—to allow him to have a photograph taken for the purposes of this lecture, showing what the central feature of the Queen Victoria Memorial was going to be. No one but Mr. Brock's intimate friends, and but very few of them, had seen it so far, and no strangers at all. The photograph having been thrown upon the screen, the lecturer said it had been taken from the great model, which was now approaching completion. The artist, with a wise prudence, and as a precaution against eventualities such as the world had had bitter experience of, in case Fate should intervene to prevent him from finishing his work, was first completing his models for the whole undertaking before he began a single touch at the actual work itself. The central portion of the whole scheme was the monument on which rested the figure of the Queen herself. This model was 7 feet 6 inches high, so that, as the scale was one-tenth, the monument, from the base to the tip of the Victory's wing, would be not less than 75 feet, and the figure of the Queen, as she sat, would be 13 feet high. The idea was—the great Queen amid the personification of her personal qualities, which made her great. She sat in her robes of State—the only statue, he believed, in which the seated Queen wore her robes from the shoulders. At the right was a group of three figures representing Justice. On the left was Truth. At the back a beautiful and vigorous group representing Maternity, that was to say, the Queen's own motherhood, from which she did not flinch. Above her was the eagle of empire, and above, again, Courage on the right and Constancy on the left, qualities which, with the rest, brought the triumph of Victory, and Victory surmounted, crowned and dominated, as it were, the whole structure of her virtues. Around the base were four ships' prows, fighting ships and merchant ships alternately, denoting the sea power and the commerce of Britain. The whole monument would be of Carrara marble up to the three top figures, which would be bronze gilt. He need say nothing of the great platform, 70 feet wide, of the fountains and all the sculptures, the bas-reliefs and the whole superb architectural plan, devised by Mr. Aston Webb, R A., in consultation with the sculptor. He thought that Mr. Brock had judged soundly in deciding to follow traditional lines for this great work, for this was not the occasion to make experiments or to run risks by striking out in new directions. Although the general idea was based on tradition, the work was not only personal to the sculptor but thoroughly modern in treatment, and it could not be doubted that the complete work would be the crowning triumph of Mr. Brock's career.

With "Teucer" Mr. Hamo Thornycroft reached the high-water of his early career. A brilliant example of the real was his Gordon statue in Trafalgar Square, one of the finest statues in London of its class. Mr. Thornycroft had the touchstone of grandeur and style, with a big, broad rendering of the human form; with something of the movement of the Greeks, and not a little of their repose. Onslow Ford's work always charmed, although not of quite the highest class It would have taken a still more commanding position had it been more restrained in the matter of ornament. Yet its grace, refinement and sweetness of feeling reflected the fascinating character of the man. No work of modern times made a greater stir an Lord Leighton's "An Athlete Struggling with a Python.' The Sluggard" was of even higher accomplishment, just as reek in its devotion to form, but a subtler conception. mong the younger men, however, Leighton seemed to have o follower. Having touched on the forceful representations of nimal' life by Mr J. Swan and Mr. H. Dixon, the splendid ervice rendered to sculpture by the late Mr. Harry Bates, the versatile and original work of Mr. G. Frampton, the graceful, lacid and harmonious work of Mr. Alfred Drury, who had ately designed the colossal figure entitled "Even," so that a et of statues holding flambeaux, such as those round the Paris pera House, might light the City Square at Leeds, the lecturer welt on the high position of Mr. Alfred Gilbert, who, in less than decade, effected more than any other the salvation of the British chool. Having alluded to the "Perseus," the "Icarus" and Mr. ilbert's portrait-work, the lecturer said the sculptor's name would ever be associated with the magnificent colossal statue of Queen Victoria erected at Winchester. The Duke of larence Memorial at Windsor, sumptuous as it was in its ompleted form, yet moved the spectator by its refinement and legance. He believed no country could boast an artist of greater creative genius that Mr. Gilbert, at once sculptor, ecorative artist and artificer, or one who had accomplished more since the days of Cellini. Individuality and mastery were shown in Mr. Pomeroy's centenary statue of Robert Burns; striking truth and vivacity in Professor Lantéri's "The Fencing Master," and Mr. Goscombe John's "St. John the Baptist" was one of the fine figures produced in England in the present development. Mr. MacKennal's work was usually marked with good style, with a keen appreciation of the value of form. Mr. A. Toft, Mr. Fehr and Mr. Colton were also doing noticeable work. But of all the sculptors mentioned, none surpassed in power our greatest living painter, Mr. Watts, whose half a dozen pieces of sculpture placed him very high among the world's finest sculptors in the nineteenth century, and high among the sculptors of all times. No sculptor had come nearer to obtaining the grandeur of form which was so wonderful in the Greek masterpieces.

COLOUR IN PAINTING.

THE third lecture of Mr. Clausen's course at the Royal Academy treated of colour. He said he must appeal to their imagination, as colour could not be illustrated by the lantern, as his previous lectures had been. Colour had the effect of awaking feeling in a way that drawing by itself does not; so while form by drawing might stand as the intellectual side of art, colour was the emotional side Even the simplest tints suggested pure nature to the mind. Blue conjured up thought of skies; green, of trees and verdure; red, of flames and blood. The possibilities of "good colour" were almost limitless, but it could not be defined beyond declaring that it must be true to nature and harmonious. But truth did not mean the actual colour seen, for on a dull evening the sky would look grey out of doors, but if seen through the window of a lighted room the interposition of warm rays made the sky appear a tender, lovely blue. The range from white to shadow in nature was far wider than the colours a painter had to hand, so it was necessary sometimes to "paint down" in order to maintain relations, and sacrifice be made of brilliance in sky or ground, or of both, to figure. Light and shadow were never quite equal; if they were all would be monochrome. Yet monochrome, if rightly graded, could suggest colour clearly. Mr Clausen said there was tendency to paint in too cold a key, for the even light of a room lowered the scale; it was best to err on the side of being too warm. The splendour of Venetian colouring was perhaps ascribable to the fine natural conditions of light and continual sight of fine colours in fine clothes the artists enjoyed. Good colour could be seen in England when the sun shone, and of late years search to realise colour in light had led some artists to place spots of pure pigment side by side with intent they should fuse together in the eye, but the result was not satisfactory. Neither would white paint alone express light. Turner sacrificed his colour in order to get warmth and blue sky of distance, this being the more beautiful. The eye was not arrested by the brown tree or foreground, but passed over them to the real point of the picture. Rembrandt's merged colours seemed one lovely golden brown, but when looked at long enough air, light and actuality were seen. He could not be imitated, and had he been asked to explain his colouring he would probably have said only, "I saw it so." Rembrandt and the Primatives, Velasquez and Titian, had the freshness and charm of nature in their colour. A picture might be true in hues but the painting be bad in quality, opaque and heavy. Every painter made his own quality. Water-colours had their own in transparency and liquidity, but it was difficult to get quality in oils, and of two men using the same paints and painting the same sky, one would give nothing but blue paint, and the other would render the "quality" he saw in the sky. In short, the students must work to cultivate perception. There were two methods of applying colour—both good. One was to put it down direct and pure, as Velasquez, Moroni and Hals did; the other was to prepare an under-painting of the nature of a monochrome, showing the masses of light and shade, and then painting these with thin glazes, as Rubens did, and as Rembrandt sometimes did. The object of under-painting was to determine the light and dark, and all painting changed with time by flattening down, but those with strong bases retained their beauties in spite of such changes as would occur. Referring to various colourists, he said Velasquez had no convention in colour. His was simply that of nature, not as with Titian. Chardin gave very beautiful colour, not because of beauty in the things he painted, but by reason of their appearance in light. Manet had fine intuitive colour sense. Millais's lovely colour could be seen even in the simple glass of rum in "The North-West Passage," and that great artist, Mr. Whistler, showed more fully than any other painter the modulation of colour by light; his twilights and nights embodied effects the most subtle; he was the one artist since Turner to reveal the beauties of colour as it appears in nature. Truth or beauty of colour, Mr. Clausen said, was the main thing in a picture. Children were at once struck by colour, and it was not so much by form as by colour that an appearance of nature was obtained. Nature did not reveal her beauties unsought, and an added pleasure was given to the lives of those who learned to look for them.

LIVERPOOL CATHEDRAL.

WORK has now actually begun upon the site of Liverpool's great cathedral that is to be. Already the first humble day's labour, says the *Liverpool Courier*, has been honestly done towards the erection upon old St. James's Mount of that vast and beautiful fane whose lofty towers will a few years hence hold forth above the mists of sunrise and the vesper gloom the glorious shadow of the Cross. It is a mighty undertaking upon which the city has set out. The final goal can be reached only after laborious years, and perchance many who watch with pride the slow uprising of the sacred walls will never gaze with living eyes upon the completed fabric. Who shall say, so much a work of time must be the building of a cathedral, what may be the changes in the aspect of the city's front, as it stretches far out to the view from St. James's Mount to-day, before the cathedral bells chime over the grey waters of the estuary from an edifice architecturally complete to the placing of the last fragment of hewn stone upon its topmost towers? Certain it is, however the revengeful hand of Time may spare the endless vista of habitation and commerce as it now exists, St. James's Mount in its present familiar view must for ever vanish from the scene. Already the workmen are busily hammering at the demolition of those old houses at the northern end of the Mount whose days of human residence are numbered. It is particularly interesting, therefore, just at this time, with old landmarks disappearing to make way for a more splendid and noble successor, to take a brief glance at the present order of things, which future generations will never have known, and at the history of a very venerable part of the good city of Liverpool.

First of all, it is a pleasant thing to observe how all voice of controversy has been stilled, so that the united effort of Liverpool's sons may worthily contribute to the grand object upon which the city has now at last surely embarked. The once animated discussion as to which site was most fitting for the reception of our crowning architectural achievement is now almost forgotten Anyone who gives a fair consideration to the question must agree that a finer position for the cathedral could not have been chosen in Liverpool. It will stand upon a commanding eminence, from which its noble proportions will rise majestically above the heart of the city, with nothing in close proximity to detract from its impressive vastness or mar its perfect symmetry.

From the river the cathedral towers will break with lofty serenity upon the view, and will add greatly to the dignity and effect of what even now is no mean prospect of civic enterprise and devotion, as manifested to the admiring traveller who makes a first acquaintance with Liverpool from the sea. The single objection which can be urged against St. James's Mount as the site of what is intended to be the largest cathedral in Great Britain, and also, we hope, one of the most nobly designed, is the unusual departure from the rule as to orientation. But there are a sufficient number of notable exceptions, accidental and designed, from a custom as to the origin and import of which not a little obscurity exists, to render this isolated and somewhat pedantic objection quite insignificant when weighed in the balance with the many real and practical advantages of the St. James's Mount site.

The history of the ground upon which the Liverpool Cathedral will rear its lofty walls is most interesting.

In what must now be called olden times St. James's Mount was known as Quarry Hill, and was originally the crest of one of the sandstone ridges which form the background of the curved upland on which Liverpool is built. A quarry of building stone existed here certainly from the early part of the eighteenth century, and out of it were hewn the stones with which many prominent structures in Liverpool were built, including St. Thomas's, St. Paul's and St. John's churches and the town hall. The excavation in course of years became very extensive, and was approached at the top of Duke Street by a tunnelling through the rock still in existence. Close to this tunnel, on the position now occupied by the cemetery chapel, stood in days long gone by an ancient windmill. Close to, in front of Sandon Terrace, was a large inn with a bowling-green at the back and another windmill just in front. Upon the bowling-green many a well-fought main was contested by jolly bowlers, whose dust mayhap still finds a sepulchre close by.

In 1767, during a winter of great severity, when there was much distress among the poor of the city, the mayor (Mr. Thomas Johnson) persuaded the Council to find employment for the needy by levelling the irregular heaps of material thrown up from the quarry into one mound. Thus St James's Mount and pleasure gardens came benevolently into being under the name of Mount Sion, which was changed to the present title upon the erection in 1774 of St. James's Church. In Picton's "Memorials" we find an interesting note on this rechristening of the Mount. It appears that one of the houses on the Mount was converted into a tavern, and the incongruity of the association of Mount Sion with the swinging signboard of a popular inn inspired a local clergyman with the following *jeu d'esprit* :—

The mayor and council in a dreamy fit,
To slight the Scriptures and to show their wit,
The name of Sion, sacred seat of heaven,
To this unhallowed common walk have given.
Fond of impiety, behold a shrine
They've dedicated to the god of wine;
And to excite our admiration more,
See "bottled beer" recorded on the door.
But Thou who answereth the poor man's prayer,
Protect the innocent and guard the fair;
And if Thou canst forgive—forgive the mayor.

Evidently the clever author of these apt lines was a cleric who had little sympathy with the comforting advice of St. Paul to Timothy. Moreover, he does a shrewd injustice to the instinct which obviously named the Mount in memory of a truly philanthropic action. No finer tribute to the site of the Liverpool Cathedral could be wished than that given by the "Memorials":—"The situation is most commanding . . . the view is extensive and beautiful The spires and towers, and domes in the town itself, shooting up above the common level of the lower buildings, the expanse of the Mersey, the estuary of the Dee, Birkenhead in its youthful vigour, Bidston Hill with its mill and lighthouse, the ocean in its majesty of calm and storm, and the distant range of the Welsh mountains terminating the perspective, combine to form a panorama to which it would not be easy to find a parallel."

About 1825 the quarry had become exhausted, and in February of that year the ground was laid out as a cemetery in connection with the Established Church. The city gave the land and advanced 9,000*l* towards the cost of the scheme, which was financially unsuccessful, although a distinct picturesque improvement to the locality and the city. The cemetery was consecrated on January 12, 1829, and only a year later received the mortal remains of the Right Hon. Wm. Huskisson, M.P. for Liverpool, who was killed under such tragic circumstances at the historic opening of the Liverpool and Manchester Railway in 1830. In 1773 a mineral spring, which still exists, was discovered on the eastern side of the cemetery, and one Dr. Houlston wrote a pamphlet on its medicinal properties. It never appears to have attained a lasting popular vogue, however, perhaps through want of enterprising advertisement; maybe owing to the lack of a sufficiently distinct and convincing flavour in the liquor. One has also to bear in mind the rival attractions of the more potent brew at the tavern over the way, so much abused in the lines above quoted.

This, in brief, is the history of the Mount and adjoining cemetery whence phœnix-like is to spring that sacred edifice towards the completion of which every citizen of Liverpool who is proud of his city's dignity and honour must look forward with earnest hope. The present-day aspect of St. James's Mount is familiar to most people. The sides of the Mount blossom in summer into a grateful livery of leaves, and the gardens on the top preserve throughout the changing seasons some show of evergreens. On the eastern side the sombre vista of the cemetery unfolds its grey tombs of departed worthies amidst the fresh-grown grass and clustering bushes of sad cypress hue. The sealed porticos of the grimly funereal catacomb arches which front the eastern wall, the quiet dignity of the cemetery chapel on the northern escarpme and the sculptured marbles which bear silent witness above t graves in God's acre, all speak of peace, of rest and of t dead.

Turn to the west, and the eye is filled by a charming pan rama of busy life and work. Far around stretch miles of bew dering city streets upon a gentle slope which meets the waters the Mersey. The stately pinnacles of churches share t architectural honours with the gilded domes and massi towers of commerce. In varying moods of witchery the riv sweeps majestically in the middle distance, bearing on i ample bosom the still tiny shuttles of world-woven commerc with specks of ensigns fluttering at the mast. Still further c appear the clock towers and steeples of Cheshire, with risin uplands beyond and the phantom hills of Wales as the far-o rim of the world. The Mount is tenanted to-day by a fe children playing around the garden beds, and by the be figures of some old pensioners wandering, staff in hand, abo the walks and gazing, perhaps half wistfully, towards the quie reposeful cemetery. Upon the steps of the bandstand a woma poorly clad, happens to sit knitting a tiny sock and crooning dreary refrain. It well may happen that the child of whom she thinks shall see the full completion of the vast fabri which in course of years will cast the shadow of its walls upon the place where now stands the Mount, and even, it may be listen devoutly to the organ's solemn swell echoing within th consecrated aisles of Liverpool's Cathedral.

LIGHTING AND ARRANGEMENT OF PAINTINGS.

In his second lecture to the students of the Royal Academy Mr. Clausen, A.R.A., began by pointing out that lighting controlled the whole canvas, as it determined what in it should be prominent Light and shadow, warmth and cold, were the simple elements of nature whose appearance must be noted and studied, so that the general image of a scene was retained before beginning to execute it. Da Vinci defined painting as a flat surface made to appear in relief by proper adjustment of light and shade, and he was the first to record, if not to practise those contrasts as they are understood to-day. He was very modern. Many of Leonardo da Vinci's dicta were quoted, especially those in regard to eschewing hard outline as a means of obtaining relief from background, for no "line" interposed in nature, the confusion of shadow and light alone giving boundary form to figure seen against background. It was a great error, therefore, to draw figure by any particular light, and afterwards place it in an open-air scene, for shadows and reflected lights would then be shown on it—where none could be Nature should be consulted in everything. The "Vierge aux Roches," of the Louvre, was then thrown on the screen to show what type of woman Leonardo considered the most beautiful, and to exemplify his direct method of lighting whereby prominence was accorded to the figures. It was a rule, said Mr. Clausen, that no two lights should be given in a picture, as it distracted attention, but it was possible to do so when a room was the field, as was proved in "Los Meniñas," by Velasquez, "the greatest achievement of simple, natural interior lighting ever produced." Figures told brilliantly against a strongly lighted sky if they faced the sun, and Titian particularly studied this effect—he who was so true in all essentials while leaving out the little things which are now often too much regarded. To prove Titian's use of light of this kind and adjustment of shadow, his "Entombment" at the Louvre was projected from the lantern, and very similar analogy was drawn from Velasquez by his "Surrender of Breda," with its soft sky, and in which, running across at intervals, the shadows cast by groups of figures tied the whole composition together and gave a sense of living nature. It was possible, the lecturer said, to avoid the sky difficulty by leaving it out of view, or giving a very high horizon, or the relation of sky to figure could be implied by forcing the tone of middle distance "Les Foins," by Bastien Lepage, gave point to these remarks on figure directly sun-lighted. Mr Clausen warned his hearers not to lay stress on superficial quality, but to grasp the effects of light and shade Veronese, when asked why, in his huge "Marriage at Cana" picture, some of the figures were in shadow and others in light, replied simply, "The clouds parted." Some great men had frankly painted backgrounds darker than reality, and when this false passage was met with, search should be made for the artist's reason in doing it, as it was meant to attract attention ; an it was often permissible to use a convention, provided it was based upon a truth. Instance was given in the background of Sir Joshua's "Lord Heathfield." Nature should be looked at not as an inventory, but each artist making a compromise for himself that resulted in rendering an impression. Again reverting to treatment of light, Mr. Clausen said that Rembrandt made his whole picture lead up to one spot of light, and his love for beauty of light was seen in the "Repose in Egypt" placed on the screen, where masses of dark surround a circle of bright illumination. Turner in his earlier days favoured the same kind of lighting, *vide* "The Shipwreck;" but Claude's lighting was not that of Rembrandt's, *i.e.* by the exclusion of light, but was the inclusion of light lapping all space with suffusion, and shade was given by spots, as likewise did Turner when he assumed Claude's manner—and surpassed him. Mr. Clausen then touched on the sentiment of beauty in light, which grew with increased knowledge, and he drew comparison by contrast between the Flemings and Italians, the former giving more attention to surface and texture, as they studied at closer range In some portraits by Dürer the high lights of the eyes revealed reflection of the paned windows of the studio Holbein's "Ambassadors" was used to show that as it was impossible to combine atmosphere with objects seen at such close quarters as the detail and accessories received, the figures themselves failed to hold the spectator. There was none of the broad comparison of light and shade, the insistence, which the "Admiral" by Velasquez in a neighbouring room at the National Gallery had. Northern artists seemed attracted to the surfaces and textures of things, as if they studied their subjects at very close range It was impossible to combine atmosphere with this close attention to detail—a tendency which was not observed in the Italian painters, who studied large spaces at a distance, when only the broad structural details and masses of colour impressed the vision. In regard to this attention to detail, the disturbing effect of photography on modern painting was to be considered. Until photography was invented the only way of looking at things was by the ordinary human eye, which, trained to the perception of beauty in nature, had accomplished all the world's masterpieces of art Painting had presented things in the degree of emphasis in which they were presented in nature. The camera presented things with indisputable accuracy, indeed, but not as the eye saw them It was selection and arrangement that made a painting a work of art, and even the photographers seemed to have begun to realise the falseness of their results, for they were now arranging values and tones. Though snapshots were interesting to the artist, photography could not be of any other use to the painter, for what the camera gave him he could not make his own. It was necessary to make his own selection from nature.

BIRMINGHAM SCHOOL OF ART.

THE new headmaster of the Birmingham School of Art (Mr Catterson-Smith) delivered his first public address to students on Saturday night The occasion was the distribution of certificates to students of the branch classes, and there was a large attendance, over which Alderman the Right Hon William Kenrick presided

The Chairman, in introducing Mr. Catterson-Smith, stated that they had invited the students to the central school in order that they might see its advantages compared with the branch schools. He hoped that many of them would go to the central school so that they might have the opportunity of turning their art to practical use They might learn craftsmanship in all its bearings—the craftsmanship of the metal-worker, the jeweller and the illustrator of books. The committee felt that though art education was very important for all of them it was most important that that education should be turned to definite use. The more they had experience of the working of the school the more they saw the necessity of it, and he thought that in years to come the City Council would see the need for a system of scholarships from the lowest to the highest grades of instruction Mr. Catterson-Smith, whom he had the pleasure of introducing, was an artist of great eminence—a painter, designer and craftsman. The mace of the University of Birmingham, which was designed by him, was a splendid example of this

Mr. Catterson-Smith, in his address, remarked that at the present time much was being said about education. One would think they had very little more to learn with regard to the subject, but his own feeling was that they were only at the beginning. They were settling to clearer views, and saw guiding principles with a clearer notion of where they were going to With regard to some of their ideas, especially concerning art, he fancied that, instead of discovering new ideas, they would probably be obliged to go back to many old ones. For instance, with all their art education in the present day, they did not seem able to go so far as the people of the Middle Ages did. They produced much finer art than was done in the present day, and he was inclined to think that, whatever their methods were, they were simple enough compared with the complex ideas which they now had in art In all the important schools, therefore, there was a tendency to go back to the methods of the Middle Ages. They were actually doing that in that school. Each department—goldsmiths' work, stained glass, enamelling, metalwork—was a distinct craft under the control of a high-class craftsman. That system of teaching was the product of a few years The methods ten or twelve years ago were totally different, and the new system was an enormous advance upon anything hitherto done in this country. There were no people more important to a country than its craftsmen If they looked round they found few things constructed without regard to their appearance. He also asserted that the better people were morally the better would the work of their hands be. Some people laughed at that, but the whole fabric of John Ruskin's art criticism was based on the question of whether things were right or wrong. He did not believe that vicious men would do good work of any kind Perfect sympathy was also necessary. People might be highly skilled, but if their sympathies had not been educated their work would not be good. It was not enough to educate the fingers; the mind must also be educated, and an ideal was also needed. It must be created in their minds by contact with the most beautiful things and by thinking the noblest thoughts. Very few in this country had homes which were beautiful, but there existed a great deal of rubbish and of bad art—things which did immense harm from an artistic point of view. The streets were hideous. They were filled with smoke and confusion, with any amount of machinery, but little that could be called beautiful. The only way of getting beautiful ideas, therefore, was to get back to nature—to come in contact with the flowers, trees, fields, rivers, mountains and the things which were the eternal source of man's highest inspirations. For that reason he was doing his utmost to bring inside that school as much of nature as he possibly could They had there animals and plants. He desired by closer acquaintance with nature to encourage genuine originality—not the spurious kind born of a stupid, conceited desire to show off, and therefore he was trying very hard to encourage memory-drawing which would lead to great things, especially in design.

The certificates were distributed by the Chairman, and the proceedings ended with votes of thanks.

THE BRISTOL SOCIETY OF ARCHITECTS.

THE ordinary monthly meeting of this Society was held at the Fine Arts Academy, Clifton, on Monday in last week, Mr. Joseph Wood (president) in the chair. After the routine business, including the election of three new members, a paper was read by Mr Harrison Townsend, of London, on "Pictorial Mosaics." It should be mentioned that Mr. Townsend was the architect of the Horniman Museum and the Whitechapel Art Gallery, into which buildings he has introduced mosaic in an extensive and interesting manner. The lecture started with a description of the earliest examples of Christian mosaic handed down to us from the fourth century. The basilicas erected by Constantine were extensively decorated with mosaic, and those in the church of Sta Costanza at Rome are particularly interesting, showing, as they do, distinct Pagan influence. The fragment of mosaic, apparently of this century, found in the cemetery of S. Callisto at Rome, and now in the Vatican, is interesting as being the earliest representation of the traditional face of Christ. It was in the early years of the fifth century, A D 402, that Honorius shifted the seat of empire to the bare marshlands of Ravenna. Ravenna owes to the Empress Galla Placidia, the widow of Constantine II., three of its treasures, the baptistery of the Orthodox, the chapel of the Archbishop and the mausoleum of the Empress herself The central panel of the act of baptism in the baptistery shows that Pagan symbols and tradition still linger, the figure representing the river Jordan as a typical Roman river god holding the traditional urn whence gushes forth the stream At Rome highly important work was executed in this century; the mosaics on the triumphal arch of Sta Maria Maggiore show the Annunciation, the Presentation, the Three Magi, the Dispute in the Temple and the Massacre of the Innocents. Much of the mosaic work of the basilica of S. Paolo fuori le Mura is interesting in so far as it retains for us the scheme of the original mosaics of Pope Leo I. (440 to 461). The sixth century is rich in material for study in both the eastern and western portions of the empire. In the former the building of Sta Sophia at Constantinople, after the fire of 533, was brought to a close by Justinian in 559; the gorgeous mosaics with which this beautiful edifice was decorated have lain, for the many centuries that followed the dominance of the Crescent over the Cross, under many concealing coats of whitewash. In 551 Ravenna resumed its place as a great city of the empire of the East, and early in the century the baptistery of the Arians, or Sta Maria in Cosmedin, was built. The mosaic decoration of this church, like its rival the baptistery of the Orthodox, or S. Giovanni in Forli, starts with the central subject setting forth the Baptism of Christ, a curiously close copy of the earlier example seen in the latter church. S. Apollinare Nuovo and S. Vitale are churches which both contain fine examples, and for all its sadness of decay S. Apollinare in Classe is a magnificent contribution to the history of mosaic art. Leaving Ravenna for Rome, we find the art under fresh influence, due to the dominance of the northern races after the accession of Theodoric in 493, a good instance being the church of SS. Cosma e Damiano. Further work in Rome of the sixth century are the mosaics of S. Lorenzo fuori le Mura, and as samples of the seventh-century work we have Sta Agnese. The latter work reaches the border-line between the earlier and later styles. Thence onward the lecture dealt with the development of the art down to its ultimate decay in the sixteenth century, soon after when its characteristic qualities were lost in a feeble imitation of the painter's art. The really important work of the fifteenth century occurs in the chapel of the Mascoli, in St. Mark's, Venice. Here we see no fatal attempts to rival the painter, such as were soon to bring about the decay and death of the mosaic art. The whole treatment is conventional, but the conventionalism not of ignorance but of restraint, and one sees throughout the thoughtful care of the mosaicist to keep his work within the limits that his material and technique demanded. The seventeenth and eighteenth centuries find the art sunk to the lowest depths; but bad as these last examples are, and full of sickly sentiment, they are in the language of their day. But for the modern nineteenth-century works of St. Peter's at Rome not even this can be said; they merely affect the phraseology of a long past time, and in them mosaic is a dead art. The lecturer then briefly alluded to modern work in England, and some excellent examples of Mr Anning Bell and Mr. Walter Crane were shown on the screen; the work of Burne-Jones in the English church at Rome was also shown, and from these designs it is evident that we have the seeds for a revival of what, to quote Ghirlandajo's opinion, is the "true painting for eternity." The lecture was profusely illustrated with lantern slides, and was listened to by a large audience comprising many visitors and art students, and upon the motion of Mr Mowbray Green, of Bath, seconded by Dr. Alfred Harvey, a hearty vote of thanks was passed to the lecturer, which Mr. Townsend suitably acknowledged, and the proceedings then terminated.

CELTIC ORNAMENT.*

IT will, I think, be considered that ornament is at present in general debased, and is in a confused state The conscious efforts made by crafts, societies and schools of design to raise the quality of artistic work, sufficiently declares this to be so. But while this is true, there are an increasing number of individuals producing admirable work of the highest technical finish, and of original if sometimes eccentric design. There is, however, no living style or expression of our time which can be named as a period in the sense in which we speak of the distinctive periods of ornament.

Perhaps I should make a partial exception in favour of what is called "L'Art Nouveau." But such modern movements do not appear to have that element of permanence—a central relation of style to architecture—which marks an epoch. On the contrary, there is a sense of feverishness, a constant forcing of the pace in the chase of novelty, so that modern ornament comes to be ranked as fashion rather than style.

Then there is the constant cheapening of original work by commercial copies, till what comes from the hands of the artist rare and beautiful straightway is made common and tedious. Thus the artist hardly dares to give his most delicate thoughts form, lest he should find them shouted in the streets the next day.

Perhaps this must be so, since the sceptre of the arts has passed from architecture. The absence of representative style in architecture and consequent decline of monumental art has led to the loosening of control in ornament, and in an age of advertisement and display has produced that overloading of ornament so evident on all sides. The feeling for proportions and power of decoration has been lost.

Bad painting, bad music does not last. But bad architecture unfortunately does last. And so our insurance offices and banks, with their advertising fronts of cut stone, are with us for generations.

The result of the absence of a living style is necessarily a confusion of styles. At the present moment buildings in Romanesque, Gothic and Renaissance may be seen going up side by side in any considerable town, and an architect is supposed to be able to supply a design in any style that may be asked for. In earlier times, when art was still an expression of national life, this was not so; from the temple or cathedral to the humblest dwelling style ruled. The craftsma worked in a living style, was, as it were, part of it Art expressed life in the sense that it was natural, unconscious; like a language the style of the period was the common speech was the only style. So much was this the case that a building begun in the style of one period was continued in the style of the next. This fact, that the same building may exhibit two, three or more styles, so incomprehensible to us, and impossible in modern work, is explained when we realise that in the periods in which art was a natural expression it was unconscious. The builder or craftsman spoke the thing he knew and that only. Hence the disregard for work that was not of their time. Think you the villagers who built the sixteenth and seventeenth-century cottages set themselves to build beautiful cottages? They built the only cottages they knew, and they were beautiful because they did not know what was ugly. These same people would probably have thought the modern villa residence much finer.

The bane of decorative art in the present day is its self-consciousness, and the end is reached when it comes to be advertised as a commodity. Formerly you bought the furniture you wanted, and the designs and work were good. Now you have your choice between furniture and art furniture. You now buy your art as something added, something over and above the article.

It is not surprising, then, that the power of decoration has been lost. Now objects appear to exist for the purpose of showing off the cleverness of the ornament. The ornament no longer appeals to the faculty for joy, but to the purse and the intellect. Everything seems to be done with effort. It is no longer the caress of the hand or enrichment of imagination, but painful invention. The designer speaks consciously and with difficulty a language that does not come freely to the tongue.

This brings me to the immediate purpose of my lecture. As far as I can form a judgment on the subject, designing does not begin until the forms come as freely to the end of the pencil as speech to the lips. It is one of the secrets of the mastery of the Japanese. Since tradition no longer controls ornament, and the designer is no longer, as it were, a part of a living style, we must rely on education. We must replace tradition and style by education.

Now while much time is spent in our schools of design in training the eye and hand, too little attention has, I think, been given to the training of the mind. For this purpose the historical method appears to be the only one now possible. It does not so much matter what particular style of ornament is taken in the first instance. But the student should, I think, be kept to one style until it has been mastered like a language—that is, until he can think in it. Only thus, I believe, can the power of decoration be developed. It may be doubted whether our museums and schools of design, in which we find everywhere a Babel of styles, have been from this point of view wholly beneficial.

We cannot hope to see again a national style. Art in the future must, I think, be individual, not an expression of natural life, but of the individual, and in that sense a luxury. Hence education must aim at excellence, and not averages. The average is of no importance; the individual artist is everything.

The following series of slides have been selected with a view of illustrating the line of thought I have endeavoured to put before you.

Many examples of late Celtic ornament were shown by Mr. Coffey. They represented chiefly metalwork selected from specimens from the Danube, Rhine and north-east of France districts, also from England, Scotland and Ireland. The development of the peculiar scroll patterns of the Celts from the fourth century B.C. to the Roman Conquest was illustrated in detail, and the influence of the Greek meander and anthemion forms pointed out, the final stylisation of the forms in the west of Europe shown, and the influence of these patterns on the early Christian art of Britain and Ireland was illustrated by numerous examples.

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* A paper read before the Applied Art Section of the Society of Arts on Tuesday last by Mr. George Coffey.

A Director of Public Works is required for Orange River Colony. Candidates must be fully qualified architects, with thorough knowledge of building, and must be over 35 years of age. Preference will be given to candidates who have had previous Colonial experience. Salary 900*l*. per annum, with temporary local allowance of 50*l*. per annum if single, or 100*l*. per annum if married. Applications by letter must be made to the Crown Agents for the Colonies before the 25th inst.

M. Redon, architect to the French Government, has informed the Commission of the Metropolitan Railway, Paris, that he cannot report favourably on the construction of a station under the Place du Carrousel, not far from the Gambetta monument. He also considers it would be dangerous to carry lines under the gardens of the Tuileries.

PROFESSOR DONALDSON'S MAXIMS.

(*Continued from last week.*)

Construction.

CI.

To collect physical facts, to deduce laws, and to apply them to circumstances, such is the progressive operation of the mind in the study and application of construction.—*Lacroix.*

CII.

Construction has for its laws the principles which govern matter; for materials, the productions of the vegetable and mineral world; and for its end, resistance to weight, a successful struggle with the elements and victory over decay.

CIII.

There are three leading points of view under which to regard all construction—statical, qualitative, quantitative. Statical relates to the disposition of the masses; the two latter points refer to the quality and quantity of the materials which have a mutual relation and control as to solidity and stability.

CIV.

It is incorrect to regard decay and destruction as entire annihilation of substance. Decay is but a species of transition from one state to another. The first elements of any substance which is reduced to a powder, sublimated to a vapour, or converted into a gas or steam, still exist in another form, assuming a new combination.

CV.

Ignorance, haste and parsimony are three great enemies to substantial construction.

CVI.

The rot in timber germinates in damp, expands in heat, but shrinks and dies in perfect ventilation.

CVII.

Green wood laid in peat will last for ages.—*C. H. Gregory.*

CVIII.

Expansion and contraction, the effects of temperature, are constantly operating in all construction the most solid, in all materials, even the most dense. Hence a perpetual movement destructive of cohesion, and by disintegration inducing decay.

CIX.

Water is the most destructive agent to construction. There is no quantity so small which, if repeated, is not ultimately fatal. The softest as well as the hardest material must yield to its insidious attack. No adage more true than "Gutta cavat lapidem."

CX.

Our forefathers knew the connection between moisture and decay in soft material. Hence in the buildings of the districts where the soft stones prevail the bottom courses of the walls will frequently be found to be formed of a hard and impervious stone, the strata of which are called by the quarrymen foundation-stone.—*C. H. Gregory.*

CXI.

Walls always above or always below water may under certain circumstances be laid without mortar; when between wind and water they never should.—*C. H. Gregory.*

CXII.

"All the mechanical effects that tend to destroy buildings arise from weight, which acts in an inverse ratio to resistance," says Rondelet. How important, then, the study of the mutual relations of void and solid, load and support, action and resistance.

CXIII.

Weight is a constant force, with which all solid bodies appear to act.

CXIV.

All parts of solid bodies fall in a vertical direction.

CXV.

All thrust and lateral pressure, whether in a truss, a buttress, a dome, a vault or arch, must be resolved into vertical weight.

CXVI.

Lines of pressure must always be at right angles to the joints of the beds.

CXVII.

The true strength of materials in construction depends rather upon their distribution or their application than upon their quantity.

CXVIII.

Voids over voids and solids under solids.

CXIX.

He is the ablest constructor who, with the least surface to his points of support, upholds the greatest weight, uniting strength and economy.

CXX.

The Freemasons of the Middle Ages have established this principle of construction, that, with equal quantities of material, a thin wall with buttresses has greater strength and stability than a thicker wall without.

CXXI.

Piers with equal superficies of base, as a circle, a square, an equilateral and a right-angled triangle, have the following strength approximatively:—100, $93\frac{1}{2}$, 86 and $76\frac{2}{3}$. A square is to a parallelogram as 100 : 95.

CXXII.

The strength of a wall depends rather upon its stability than upon the greater or less hardness of the materials.

CXXIII.

The stability of solids diminishes in proportion to the height of the centre of gravity.

CXXIV.

Strength sufficient (for the immediate purpose) is not strong enough; therefore it is better to have too much solidity than too little.

CXXV.

Nevertheless all unnecessary material is not only wasteful but prejudicial.

CXXVI.

No wall, nor framing, nor in fact any piece of construction ought to be charged with more than two-thirds of the load which it is calculated to bear; in railroads, where the load is variable and concussion takes place, the law is one-third.

CXXVII.

Tredgold in his Essay on Cast-Iron lays down two leading principles:—"That the measure of the resistance of a material to flexure is the only proper measure of its resistance (to a straining force), where perfect form and unalterable position are desirable."

CXXVIII.

And that "the measure of its resistance to permanent alteration is the proper resistance (to a straining force), where flexure is not injurious or objectionable."

CXXIX.

It is not the fracturing weight which is required in practice but that weight which will not injure the material.

CXXX.

Permanent alteration of form, however slight, is partial fracture.

CXXXI.

Eaton Hodgkinson, in his Supplementary Part II. to Tredgold's work on Cast-Iron, says "that there is no weight, however small, that will not injure elasticity."

CXXXII.

A beam will bear twice as much weight distributed over its length as it would do if the weight were in the middle.

On Masonry.

CXXXIII.

"All stones, even those of the least cohesive strength, are strong enough to support any weight they can be brought to bear in construction under ordinary circumstances."—*C. H. Smith.* That stone must be soft indeed which, laid upon a sufficiently wide basis and a perfectly equal bed, can be crushed by any weight.

CXXXIV.

Materials of different powers of resistance may be placed so as to counteract one another, but not to act in concert. Soft and hard stones should not be laid in the same course, but they may be placed one above the other.—*C. H. Gregory.*

CXXXV.

Quoins of buildings and walls should always be carefully protected in the foundations and well bonded in the superstructure. At the angles unequal settlement most frequently shows its effects; but when quoins are well supported they will keep up a weak wall. The Gothic architects were well aware of this, hence the immensely projecting buttresses at the angles of their lofty towers.

CXXXVI.

The material available must frequently have determined the style of art. The granitic and hard rocks which line the Nile must have motived the massive piles of the Egyptians. The freedom of marble doubtless influenced the Attic taste, and the coarse texture suggested the heavy ponderous character of the monuments of Magna Græcia. The like consideration controls the introduction of more or less ornamental detail in edifices.

CXXXVII.

The greater the thickness of a block in proportion to its base the greater its strength, and the larger the base of a block the greater its stability.

CXXXVIII.

The heaviest stones are generally the darkest coloured, the hardest, the strongest, the most homogeneous and of the finest grain.

CXXXIX.

Less force is necessary to split hard stones than to crush them; less to crush soft stones than to split them.

Limestones and Mortars.

CXL.

In all mortars there must be two essential solid ingredients in addition to the water, the one active and chemical—that is, the calx or lime—the other inert and mechanical (?), as grit, ashes, &c.

CXLI.

Limestones vary in quality according to the substance which they contain in addition to lime. But all pure lime is of the same quality and strength, whether derived from stone, shells or any other calcareous substance.

CXLII.

Clay in the limestone gives strength to the lime, and hence the setting properties of Merstham, Dorking and blue lias lime; the relative strength depending upon the greater or less quantity of clay in combination with the lime.

CXLIII.

Cement is always weakened by the addition of sand, but pure lime requires the addition of sand to constitute mortar.

CXLIV.

The core of lime is more easily detected in the hard than in the soft stones; hence one of the advantages of using the former.

CXLV.

Sand for mixture with lime should be perfectly free from impurities, highly angular to render it sharp, and not very minute in grain.

CXLVI.

Sand in a moist state occupies less bulk than when dry.

(*To be continued.*)

Correspondence

Code Words for Beams.

Sir,—My attention has been drawn to a letter from Mr. Robert Atkinson, in reply to an article dated January 1, entitled "Standard Section of Beams," in which you suggest the application of the names of thirty architects and engineers who have employed steel or iron beams, to represent thirty sections respectively, when ordering one or more of the aforesaid by telegram. Having had some years' experience in the telegraph service, a few remarks on the subject of code words, from the telegraphic point of view, might be of interest.

Admitting that words apparently similar in the ordinary way are not so to a telegraphist, it must be remembered that in spite of every precaution which human skill and foresight have effected in improvements, error in transmission is a possibility every user of cable and land lines must allow for. Experience proves that the majority of mistakes occur at the end rather than the beginning of a word, and several of the words quoted in your article as adopted by the "standard committee" differ only in the matter of one or two letters at the end. Take, for example, "absinthe" and "absinthine." Assuming the former is mutilated in transmission, how is the receiver to interpret it? A doubt must exist as to whether the word is to be read "absinthe" or "absinthine" It is therefore obvious that the use of code words closely allied in spelling for telegraphic purposes is attended with a degree of risk which can be lessened by adopting words of greater discrimination.—Yours faithfully,

Morse.

GENERAL.

The Council of the Senate, Cambridge, have accepted the offer made by Mrs Winbolt of the sum of 500*l.* in order to found an annual prize in civil engineering in memory of her late husband, Mr. John Steddy Winbolt, M.A, of Trinity College, by whose name the prize is to be called.

The Erection of a chancel screen in St Faith's Church, Wandsworth, as a memorial to Queen Victoria, has been completed. It is decorated in bronze green and gold by Mr. Bartlett, of Brixton. The screen is of wrought-iron, and was produced by Messrs. Tonks, Ltd., ecclesiastical metalworkers, of Birmingham and London.

Mr. Justice Swinfen Eady has granted an injunction restraining the Building and Vendor Company, Ltd., from pulling-down or otherwise interfering with the eastern wall of Walsingham House without first shoring-up the same, or taking such other precautions as the district surveyor may direct.

Mr. Frank Brangwyn, Mr. Hjalmar Molin and Miss Adeline S. Illingworth have been elected Associates of the Royal Society of Painter-Etchers and Engravers.

The Society of the Friends of the Louvre has increased in membership during the past year from about 300 members to 1,650. The funds amount to 1,600*l.*

The New Society of Decorators has opened an exhibition in the Petit Palais, Paris. Several members have co-operated in the adornment of improvised salons. There are also numerous independent examples of art.

The Members of the Section of Architecture of the committee for the next Salon exhibition are MM. Pascal, Vaudremer, Nénot, Scellier de Gisors, Laloux, Moyaux, Raulin, Daumet, Loviot, Bonnier.

The Competition for the transformation of the "Cour" of the Grand Hotel, Paris, has been decided. M. Bechman gains the prize of 2,500 francs, M. Fugairon 2,000 francs, and M. Carré 1,500 francs.

The Bridge House Estates Committee of the City Corporation have expressed disapproval to the Southwark Borough Council of the proposal that the obelisk at St George's Circus should be moved to permit of the erection of a clock tower. The obelisk was erected in 1771, and is at the junction of six roads.

The late Baron Arthur de Rothschild has bequeathed ten paintings to the Louvre, viz:—"The Dead Bird," "The Two Friends," "The Surprise," and the "Child with Doll," by Greuze; "The Cabaret" and "The Game of Bowls," by David Teniers; the "Halt of Cavaliers," by Wouvermans; "The Coast at Scheveningen," by Bakhuysen; "The Forest Farm," by Hobbema, and "The Road," by Ruysdael.

The Exhibition of the Société Nationale des Beaux-Arts will be held this year in Paris from April 16 until June 30. Architectural drawings will be received on March 18 and 19.

The Royal Scottish Academy are reserving a room for some of Mr. Whistler's works at their forthcoming exhibition in Edinburgh. Messrs Agnew have forwarded twelve pictures, including the "Miss Alexander," the "Mrs Huth," the "Old Battersea Bridge," the "Valparaiso Nocturne," and the early picture of a girl in Japanese dress.

An Exhibition of Mr. Lavery's works will open on Monday at Schulte's Gallery in Berlin till February 20. There will be shown twenty-six pictures, including "Spring" and many of his best-known portraits.

The Executive Committee of the Queen Victoria Scottish Memorial School have selected the site for a new building at Kippendavie, which is about four miles from Dunblane. The site is nearly 400 feet above sea-level, has a good water supply, and the capabilities for drainage are satisfactory. A sub-committee will deal with the obtaining of plans for the new building.

Mr. Ralph Neville, K.C., will read a paper on Monday next, before the Surveyors' Institution, on "The Garden City Scheme and the First Garden City, Ltd."

A Museum of Arabic Art has been opened in Cairo. Hitherto the collections were found in the Mosque El Hakim.

M. Frémiet, the sculptor, declined to allow himself to be nominated for the presidency of the Société des Artistes Français, although there was no doubt about his success.

The Chicago city authorities propose to reproduce the recent fire at the Iroquois Theatre The stage will be filled with shavings and rubbish to imitate as nearly as possible the conditions at the time of the disaster. Experts will carefully watch the action of the flames and gases, and regulate their effects by the manipulation of ventilators and doors.

Sir W. Emerson has left London for India, having been entrusted by the Indian Victoria Memorial Committee with the work of architectural supervision of the erection of the memorial hall at Calcutta from plans prepared by him.

Knepp Castle, near Horsham, was the scene of a fire on Monday, by which the interior was destroyed. The renowned portraits by Holbein have perished, as well as others by Vansomer, Vandyke and other artists.

The Edinburgh Town Council propose to place four groups of sculpture on the North Bridge. The Scottish Borderers and Black Watch wish to be remembered, and there will probably be groups relating to Wallace and Bruce.

A Kansas City firm of engineers has been commissioned to prepare plans for a cantilever bridge to span the Straits of Canso, Nova Scotia, which will be 100 feet longer than the Forth Bridge.

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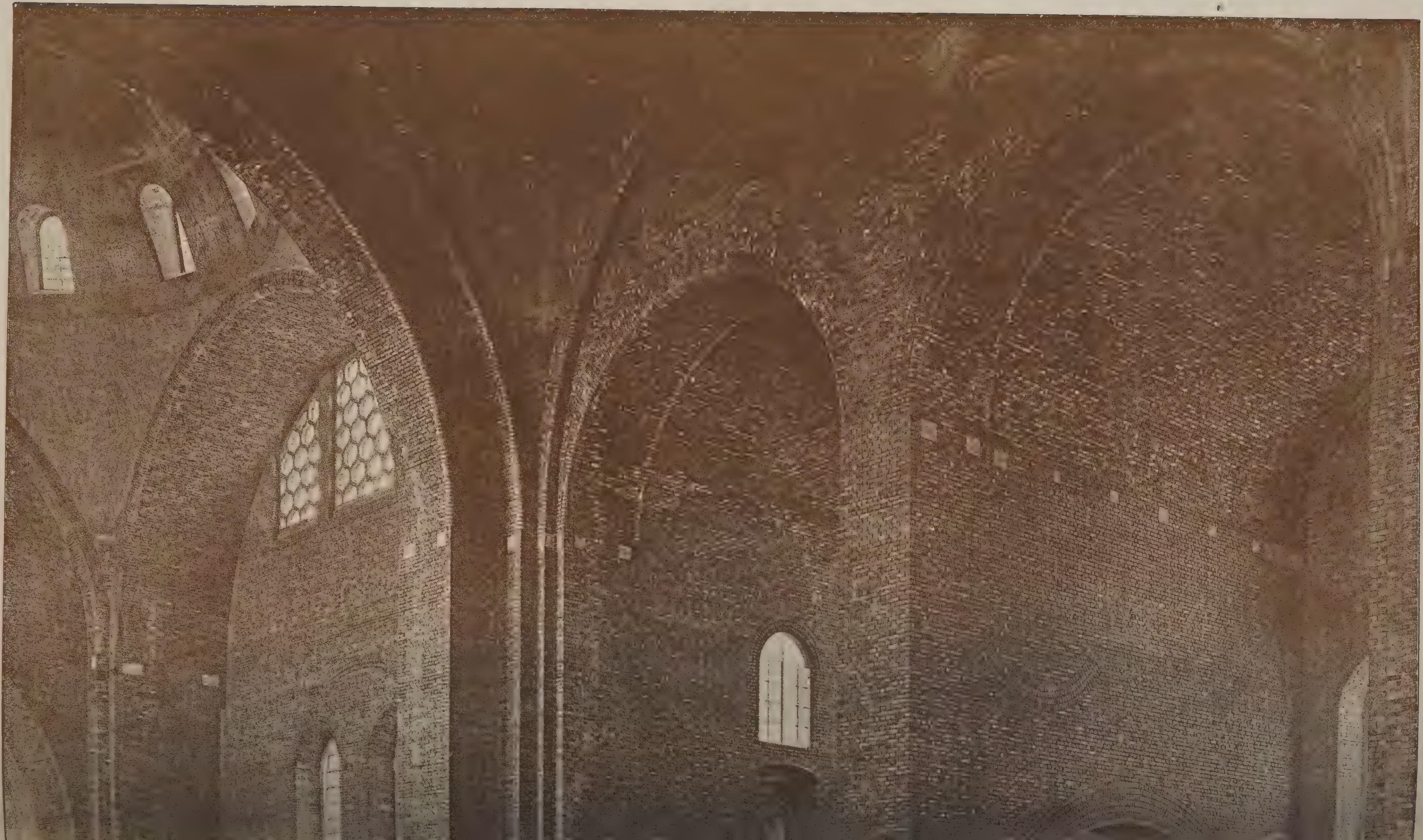

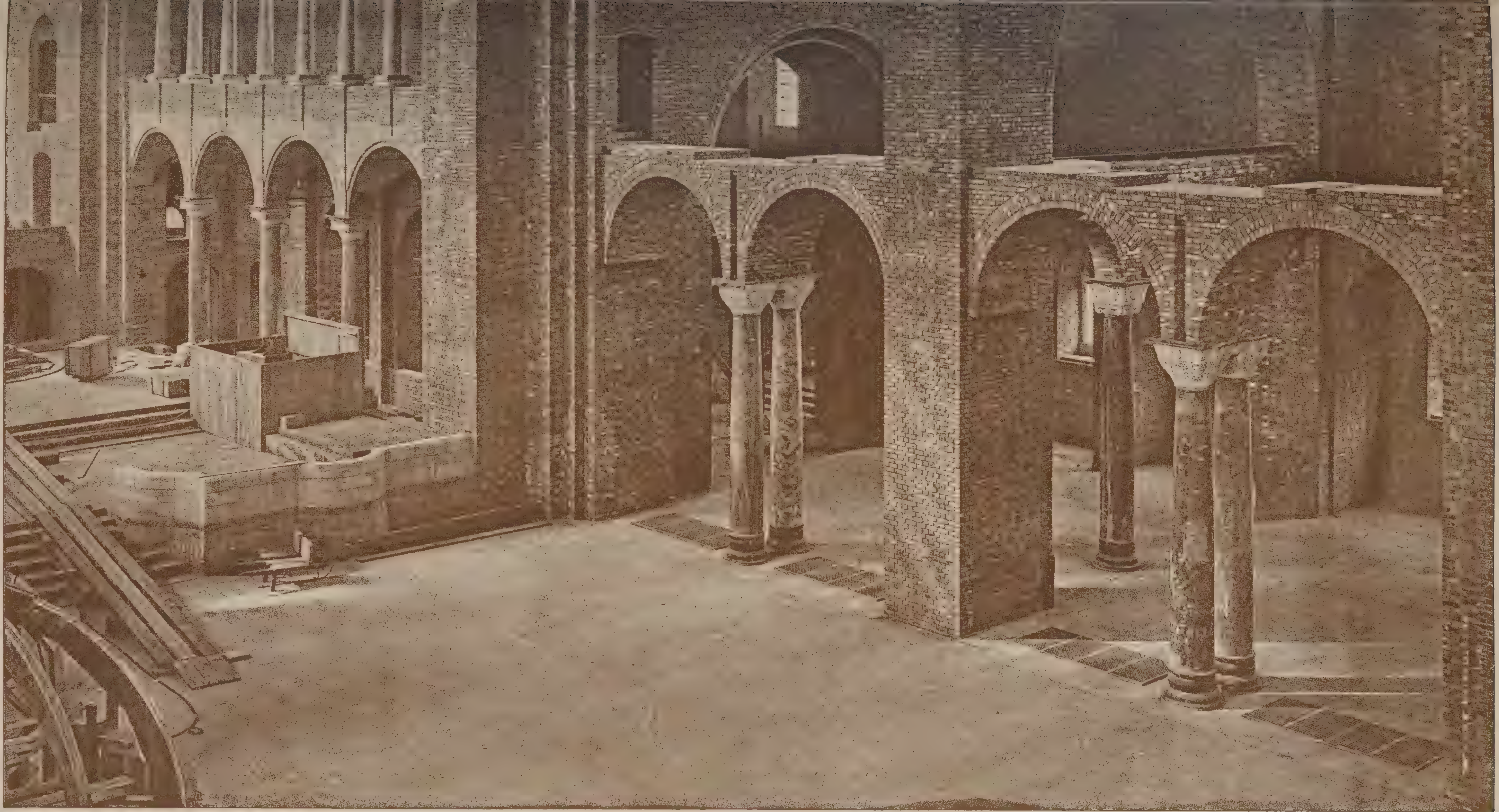

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Roman Catholic Cathedral, Westminster: Looking across Nave to West Side from Gallery.

The late J. F. BENTLEY, Architect.

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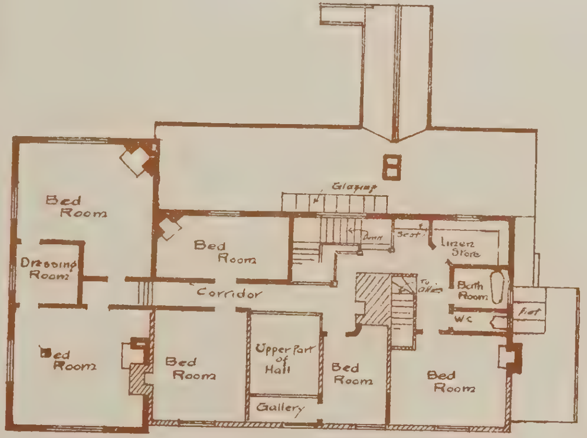
. "BRATTLE'S" . BRENCHLEY . KENT.

. for J. HAY EDWARDS . Esq.

. ALBERT . C. FREEMAN . ARCHITECT .
. CLAPHAM . S.W. 1903 . .



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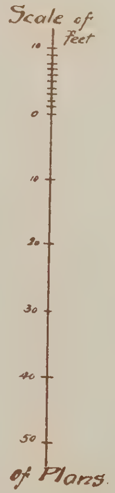

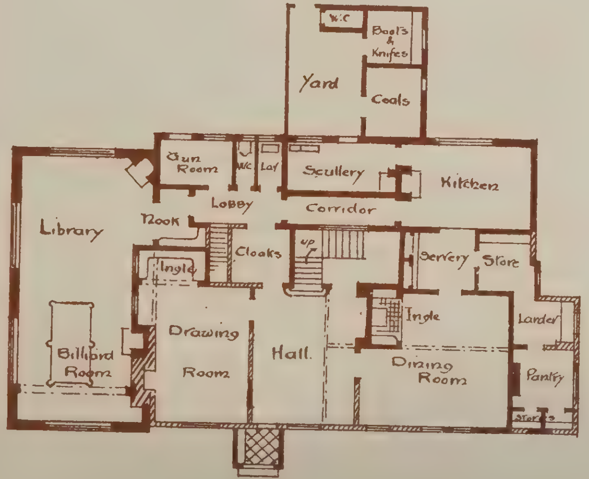

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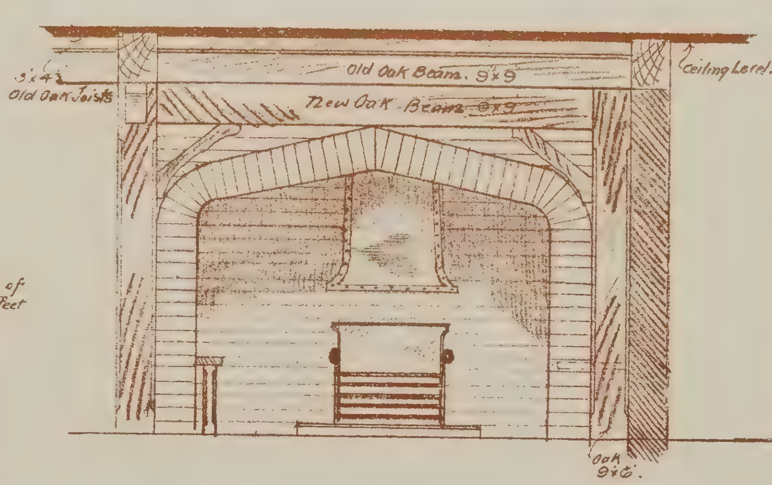
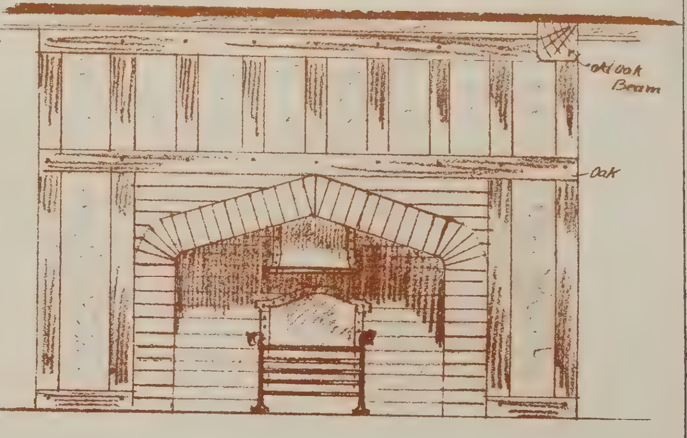
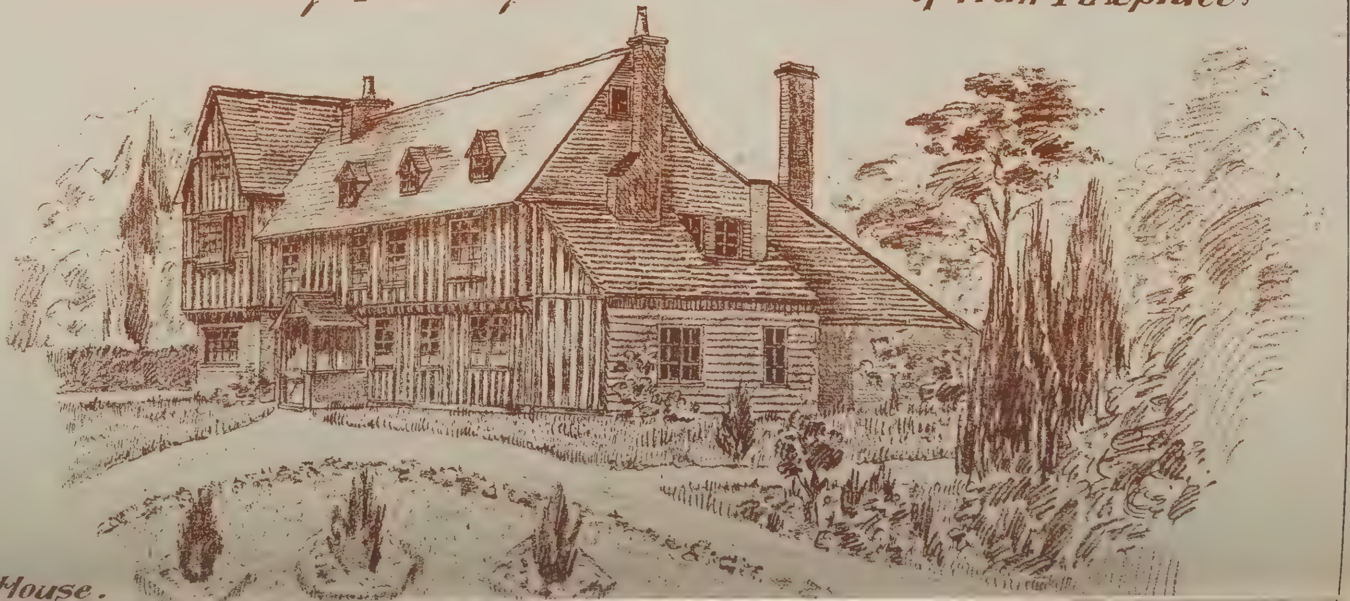


Detail Dining Room Ingle.

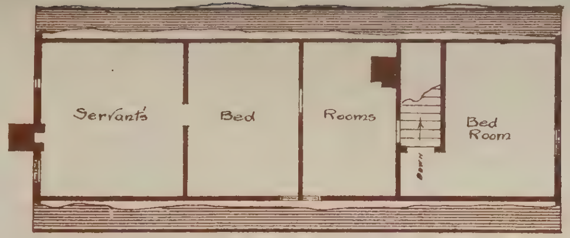


Detail of Hall Fireplace.



. Sketch of House.

. BRENCHLEY. KENT.



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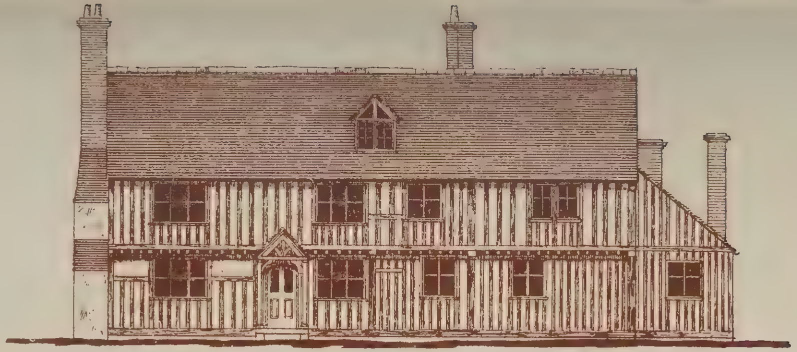
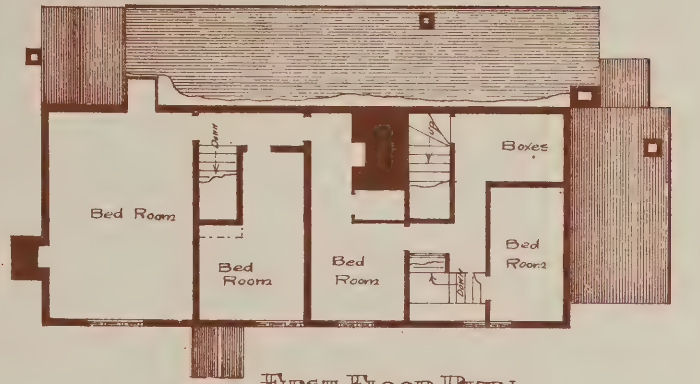


. FRONT ELEVATION.



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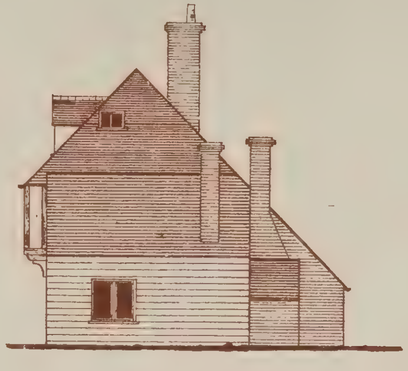

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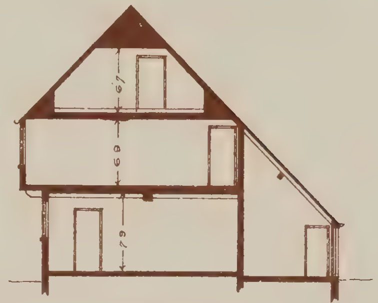

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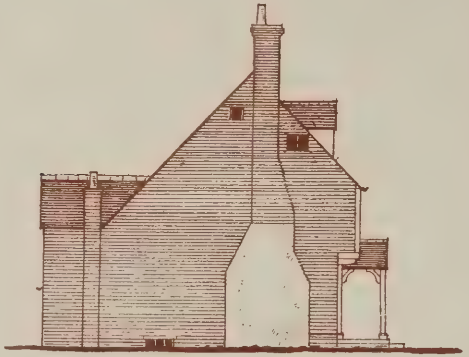

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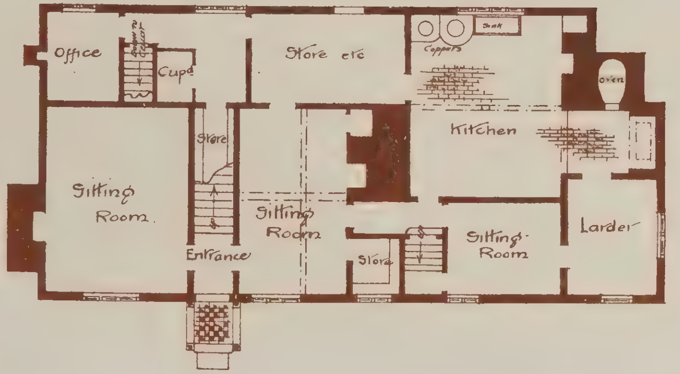

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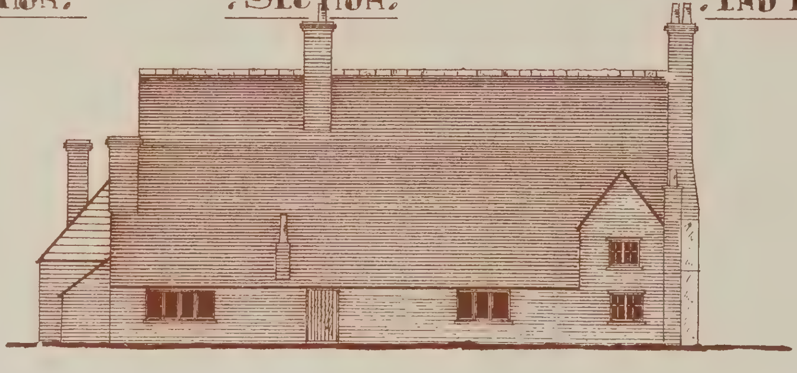

. BACK ELEVATION.

Scale 0 5 10 20 30 40 50 60 70 of feet

Albert E. Keeman
42 Hemberton Road
Clapham. S.W.
Oct 28 1903.

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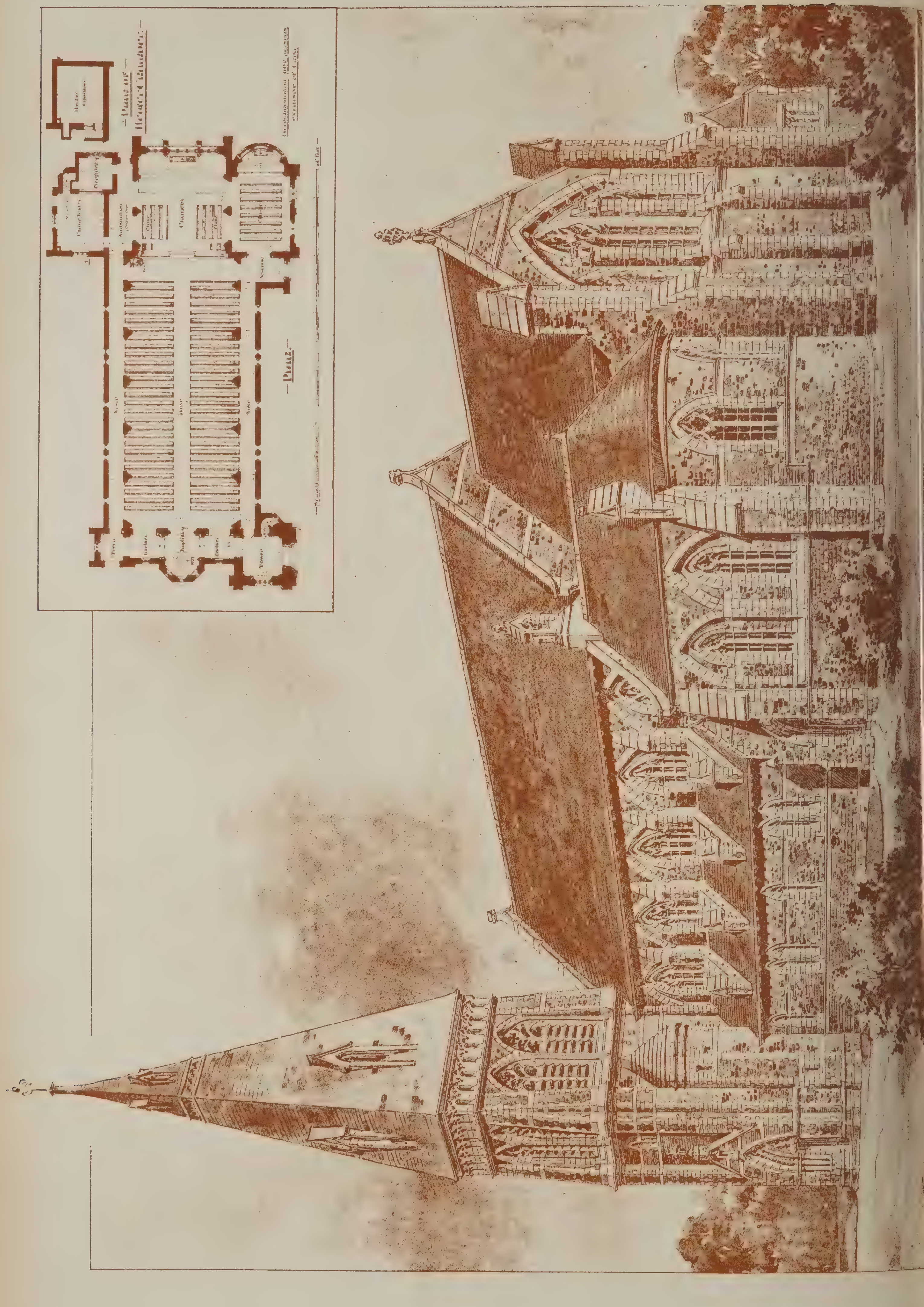
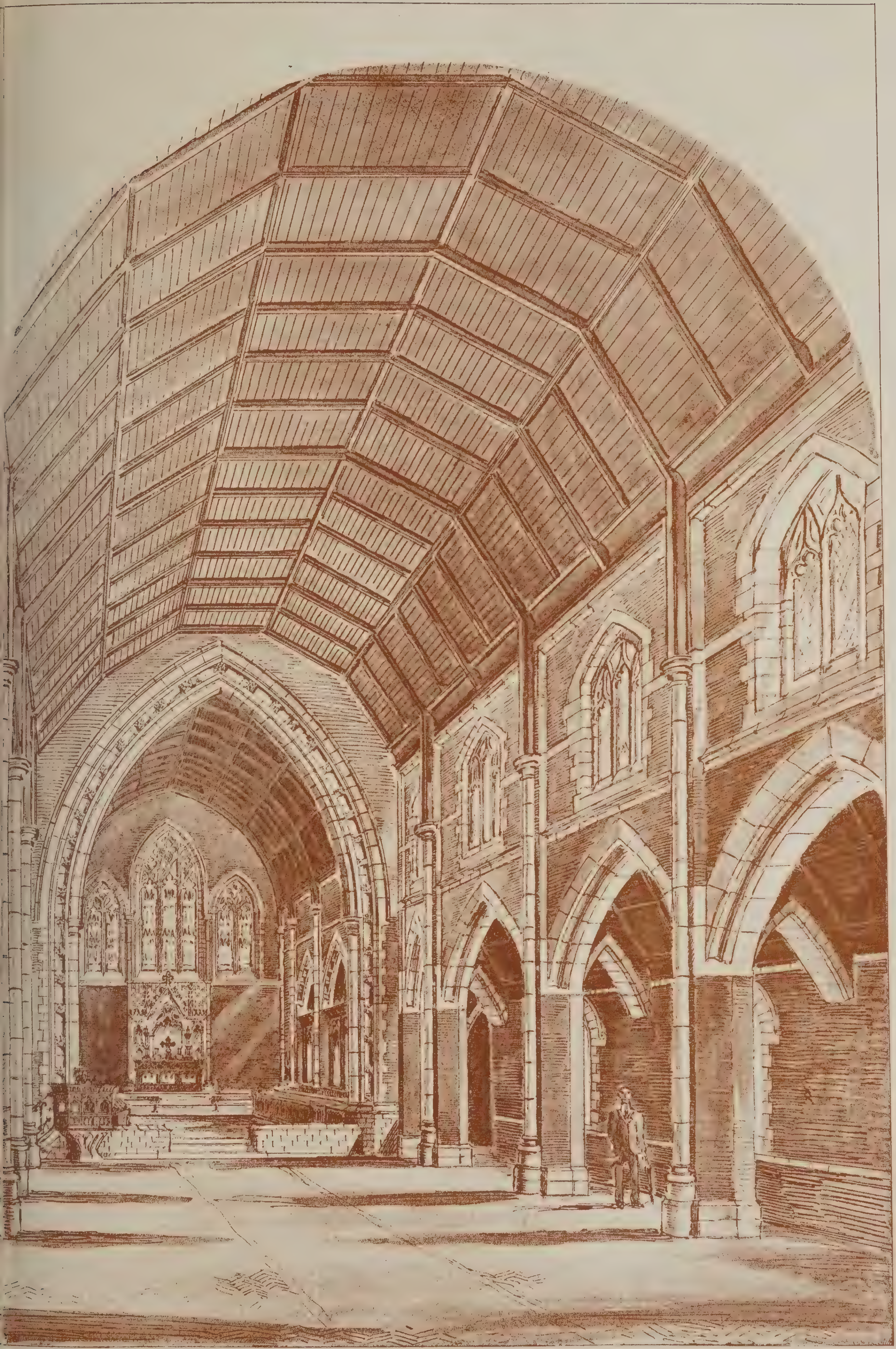


CHURCH,

Messrs. NEWM



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The Architect.

THE WEEK.

We mentioned a case last week in which it was held that two men who were grievously injured by a fall of earth while cleaning a pipe in connection with waterworks were not engaged on engineering work, and therefore could not be recompensed under the Workmen's Compensation Act. Another case has since been heard which bears some resemblance to the one we have referred to, but in which the issue was different. A contract was taken for the construction of a reservoir for the water supply of Todmorden. The pipes were being laid and for that purpose a hand-crane was used. A workman was endeavouring to fix a steel wire on the drum of the crane when his hand was pierced; blood poisoning followed, and eventually he died from the injury. Although the scene of the accident was a quarter of a mile from the reservoir, the county court judge decided that as the laying of the pipes was part of the work the man could recover compensation. The contractor appealed on the ground that the accident happened at too great a distance from the reservoir to be considered "on or about" the engineering locality. The Court dismissed the appeal, inasmuch as the county court judge had found that the laying of the pipes was involved in the construction of the reservoir. The workman or his representatives were therefore entitled to compensation. The difference between the two cases will not appear to be very wide, but it was sufficient to justify the decision.

It is advantageous for a Frenchman to have gained success in England, for it is supposed we are very rigid judges in this country, and are particularly severe with foreigners. M. Homolle's recent lectures on the Treasury of Cnidus at Delphi have been a passport to official promotion. About a year ago the old city was visited by the Minister of Public Instruction, and he was able to testify with his own eyes to the amazing skill M. Homolle exhibited in organising fragments and *débris* until they served as efficient exponents of difficult archæological problems. It was reasonable to conclude that a man who was so efficient with stones would also show administrative skill in dealing with officials. M. Homolle has therefore been entrusted with the important office of Director of the National Museums, and more especially of the Louvre, in succession to M. Kœmpfen. It is the highest of one class of official appointments, and is the dream of many Frenchmen. It is, however, an office most difficult to fill. The public are not only hard to please, but there is a host of archæologists, reformers, artists, experts who have most decided opinions about what should be done with the collections. The effect of the agitation which never ceases is to be found in the vast changes from time to time in the arrangement of the galleries, but which rarely afford satisfaction unless for a brief period. Large as is the Louvre, it is impossible to exhibit all the treasures of the collections in such a way as is desirable, and, moreover, there are many enthusiasts who, if they had their will, would keep the most valuable objects for the enjoyment of a select circle. There is such a diversity of theories, it is impossible to satisfy those who produce them. Strangers, when they visit the Louvre, are usually disposed to acknowledge the facilities afforded to gratify the public. But those Frenchmen who regard the Louvre as if it were a club seem doomed to be always discontented. M. Homolle is free from that officialism which is charged against directors and conservators, and he may be able to conciliate all the opposition awaiting the first display of his authority.

In a letter to a local paper Mr. Edward A. Heffer, architect, of Norwich, has offered some remarks on scene-painting. He has prepared designs at various times for such work, and he has found that what appears correct on paper would turn out woeful if strictly realised. He refers to one instance of improvised decoration, viz. that which was produced when Her late Majesty and Napoleon III., with their consorts, visited the Crystal Palace at Sydenham. He says:—"The throne of homage was placed under a lofty temporary structure or proscenium, on one side of which was represented a colossal figure of St. George of England, and the opposite was occupied by St. Denis of France. These statues, with various national devices, were painted by the late Mr. John Thomas, the eminent architect-sculptor, and I may add the word painter. I well remember the pride and excitement he felt during the time he was employed upon this huge work. My respected master was not one who obtained assistance and took credit from the labour of others, as is too frequently the case, but he executed the work himself." John Thomas was largely employed at the Houses of Parliament. He died at the age of forty-nine, but during his career he was enabled to produce many varieties of architectural sculpture, besides examples which were evidence that with more leisure he would have ranked high in representing ideal figures.

It is satisfactory to find that the meeting held at the Mansion House on Tuesday in favour of the appeal for rebuilding and improving St. Bartholomew's Hospital was practically unanimous in its approval. Although the Egyptian Hall was filled, only two gentlemen had the courage to express dissent. The contributions which were given or promised amounted to 40,000*l*., a sum that is encouraging as a start. The fact that during three weeks of this month 15,247 sufferers were attended to in the out-patients' department is sufficient to prove that the hospital is still accessible to large numbers of the population. In 50 years 7,000,000 patients have been treated, and it may be assumed that during the next half-century a still greater number will have recourse to the hospital. The estimated cost of the works required is 438,000*l*. There can be no question that the money will be expended wisely, and the public in general will be disappointed unless the new buildings are of a kind which can be taken as models in other places.

The surroundings of a typical English cathedral did not satisfy Mr. Ruskin. He preferred St. Mark's, although it stood in a paved alley, to the prim-shaven grass-plots, the trim houses with their gardens behind, and the smooth walks with which we are familiar. The very birds he considered were characteristic, for instead of the hoarse-voiced and sable-winged crows found in the trees about the grim English cathedral, at St. Mark's the doves nestled in the porches and mingled their plumes with the lovely marbles. The idea may be pleasing of having cathedrals shut in by dwelling-houses and commercial buildings, but we hope that in England it will be long before the trees are cleared from the vicinity of either churches or cathedrals. The Dean and Chapter of Chichester have been considering for some time the advisability of removing trees from the precincts. The lodgings of the officials, shops and private houses leave little more than one side of the cathedral as free as is desirable. Before taking action it was decided to ask the opinion of Mr. L. T. Whalley. In the part called the Paradise, where there are six cypresses, he recommends that only two should be removed. An old box-tree that is undermining some of the tombstones is condemned by him. But he says that if more trees are taken away in that part some very ugly buildings will be exposed. One large lime-tree, he holds, should be left as it is, for if the branches are cut off, others would spread out at the crown and become a nuisance to an adjoining owner, in which case we hope the Dean and Chapter will be made to pay heavily for any damage caused. Mr. Whalley also advises that a row of lime-trees should remain untouched; for, as he says, the inhabitants of Chichester would very much resent the removal of any of them as an injury to one of the most beautiful features of the surroundings of the cathedral. It is gratifying to learn that Mr. Whalley's suggestions are to be adopted, and the destructive tendencies of the authorities for a time at least will be controlled. But constant watchfulness will be necessary on the part of the citizens unless they wish the cathedral to acquire a character exteriorly which will be in keeping with the depressing coldness reigning within.

IN THE YEAR 1704.

About the middle of the last or the nineteenth century, interest was aroused in the events, manners and customs of the early part of the eighteenth century. One result of it has been the erection of a great many buildings in the style of that period. People could then speak of the reign of Queen Anne as if it were merely a century distant. A few years make a difference in computing time. We must now admit that no less than two centuries have elapsed since Anne's augustan reign began. The period may therefore be considered as if it were ancient history. It was in 1702 that William III. having made the royal apartments in Hampton Court "very noble" in the style which was homelike to him, and being much pleased with the place, went thither once a week and rode about the park. At the end of February his horse stumbled, and the king, being very feeble, fell and broke his collar-bone. Although the bone was well set, the shock was too severe for his frail, toil-worn constitution. He died in his fifty-second year, having ruled in England for thirteen years. The country was on the point of entering on a war which was expected to be costly, so the funeral of the king was, as Burton records, "scarce decent, so far was it from being magnificent."

When Anne, youngest daughter of James II. by his first marriage, ascended the throne, she had reached the age of 38. In a speech to Parliament she said her heart was entirely English—words which were taken as a reflection on the late king. One of the first Bills passed was for examining the public accounts. Men were supposed to have attained great estates by dishonest practices as officials, and by debasing the coin. However, the attention of the public was then mostly directed to the war in progress in many places on the Continent. It would be out of place if we attempted to describe the historical events, but they produced minor effects of various kinds which we may be allowed to notice.

Let us take one example. The Queen was married in 1684 to Prince George of Denmark. His orthodoxy was not satisfactory in the eyes of the bishops. As Lord High Admiral he appears to have complied with the regulation of receiving the sacrament as if he belonged to the English Church, but he insisted on a special chapel where the services could be conducted according to the Lutheran ritual. It was decided to convert the apartment of Lord De la Warr into a chapel for the prince at St. James's Palace, and Sir Christopher Wren prepared a report and estimate of the alterations.

At the time foreign cruisers were at sea, so it was deemed advisable that more attention should be bestowed on lighthouses, in order to enable English sailors to identify different parts of the coast with certainty. In Ireland it was found that Lord Abercorn possessed a patent by which he was bound to maintain six lights; four were neglected, the reason being that the sum received was only 500*l.* per annum. In those days, what should have been the public service was in many cases conducted for private benefit. Lord Abercorn spent 200*l.* per annum on the two lighthouses, and he was accorded sympathy because his profits were only 300*l.* a year. The primitive system adopted for illumination may be judged from a description given of a report concerning his lighthouse on the hill of Howth, near Dublin:—

> The hearth on which the fire was made was about 20 inches diameter, declining inwards towards the centre, where there was a grate of about 6 inches square for the ashes to drop through, and that there was a pair of the smaller sort of smith's bellows, the nose of which was, at least, 5 feet from the fireplace, and that the fireplace was not rightly made and the bellows of little or no service. The Surveyor proposed that a strong cylinder should be made of iron bars of 2 feet diameter and 2 feet high, set upon a brick cylinder hollowed within of near the same breadth in the clear, and about 4 feet high. By that means the bottom grate would be large enough (being 2 feet diameter) to let all the ashes through, that so the fire might burn the clearer, and the upright bars, without hindrance to the light, would enclose a large quantity of coals and make the fire so much greater and less subject to be extinguished by rains, or hid from the sea by its smoke in westerly winds, and a larger bellows should be provided and placed nearer the fire.

The dangers of the sea were magnified by such crude arrangements. But what was to be expected when the primary object of lighthouses, as of other things, was the affording of revenue to courtiers? At another Irish lighthouse only twelve barrels of coal were allowed for keeping up the beacon fire throughout a year, and it was proved that at least 200 great barrels were required. In a third dangerous position the light had been abandoned for about thirty-six years. The Earl of Abercorn could not see there was any failure of duty on his side. He presented a petition to the queen, on behalf of himself, the countess and their eight children, describing the loss they would sustain, as the 500*l.* a year was involved in the marriage settlement and the portioning of their children.

One of the reasons which led to the inquiry into the lighthouses was the loss which arose out of the storm of 1703. In Addison's "Campaign," the poem which was the foundation of his fortune, he compared Marlborough to an angel controlling the whirlwind, and particularly referred to the recent storm. The effect on land was appalling, for the people in London were afraid they were about to be buried in the ruins of their houses. At sea the disasters were great, but not equal to those which were anticipated. "We had at that time," says Bishop Burnet, "the best part of our naval force upon the sea, which filled all people with great apprehensions of an irreparable loss; and, indeed, if the storm had not been at its height at full flood and in a spring tide the loss might have proved fatal to the nation. It was so considerable that fourteen or fifteen men-of-war were cast away, in which 1,500 seamen perished." Among the Treasury papers are a great many entries relating to the havoc done by the storm. Some of the bishops craved to be let off paying their first-fruits owing to the outlay on their palaces. On the Crown properties reparations were called for. At Dover a hundred vessels were able to find refuge, and it was proposed to expend 3,370*l.* in making good the breaches and damages. What seems most remarkable is that at a time when timber was urgently needed to build and repair war vessels, the trees which fell in the royal parks were claimed by the rangers as perquisites of their office.

Verrio was in 1704 engaged in painting the Great Room of Hampton Court. He implored the authorities to send him 500*l.* for his subsistence and charges. The matter was referred to Sir Christopher Wren. The laxity of the system of conducting public works is seen by a transaction in which Benjamin Jackson was the chief party. He was master mason under the Office of Works, and therefore one of the four principal officers. It was contrary to usage for him to have carried out works as a contractor. But his fellow officials recommended that 1,651*l.* 5*s.* 7½*d.* should be paid to him. The number of offices held by patent or privilege must have been large, but there was a tendency to disregard them on some occasions. A master joiner who held a patent complained that he was neglected. But the Officers of the Works, in a communication to the Lord High Treasurer, stated "that they employed the fittest person to do the work, and had asserted a power over the patentees to employ whom they pleased, when necessity required it (of which they were the judges, as well as of the prices), without which they could not be responsible; and the patentees would be too apt to impose on the office by enhancing the prices." The statement of the officers was approved, and Master Fort's remonstrance was without avail. The disturbances in England were injurious to many buildings. The old castle of Lidford, in Devonshire, was used for law courts as well as for a prison. During the interval when the Parliament was supreme it was permitted to fall into decay. The lead and timber had been stolen by the people of the vicinity, and in consequence there was no place to confine prisoners in the neighbourhood of Dartmoor. The castle of Trematon was another Court-prison which had become useless, although the sum of 60*l.* would do much to strengthen the building. It is doubtful whether the proposals were acted upon.

Submarine exploration is now gaining some attention. So many treasures must be lying at the bottom of the ocean, there is reason for the belief that if they could be brought to land large profits would be yielded. It is evident that two hundred years ago a similar conviction existed. James Trefusis had obtained a patent for an invention enabling him to work under water. But by one of those omissions which still are not unusual in such documents there was nothing mentioned about his ownership of the objects he might raise. He therefore made an appeal that he should have property in whatever his engine drew from the British seas. The petition was only granted conditionally.

The subject of national records began to receive notice in 1704. A committee of the House of Lords was appointed to inquire into the matter. The Tower of London was then the chief record office, and it was found that the documents in the keeper's office were in good condition and admirably kept. It was, however, added that "in Cæsar's Chapel, under the leads in the White Tower, multitudes of records in several reigns, some relating to State matters and some to courts of justice, lay in confused heaps, and if speedy care were not taken of them were in great danger of utterly perishing. It would be a public damage, as well as dishonour to the kingdom, to suffer such memorials of antiquity to be lost." Later in the year a further report was made by officials, one of whom was Sir Christopher Wren. They recommended that drawers, shelves and presses be immediately provided to receive the records; that those which were written on one side only should be fixed into books in the same manner as the ancient deeds in the Cottonian Library, with paste prepared with colliquintida (bitter apple) to secure it against worms. It was also pointed out that there was a timber building close to the room, which was recently on fire and with difficulty extinguished. For the sake of the records and of the Tower itself it was advised that the building be removed, which was accordingly done. The presses were made by John Hisenbuttle, joiner, and Joseph Kaye, locksmith.

The Governors of St. Bartholomew's Hospital are this year appealing for aid, and deserve to obtain it most liberally. In 1704 the Governors of St. Thomas's Hospital made a claim on the Government. The grounds of their application were substantial. As usual, England went to war with France without making provision for the consequences. The wounded soldiers and sailors, when they were landed at an English port, found there were not even temporary places to shelter them. St. Thomas's Hospital took in 4,992 men; they were kept for 330,843 days, or about an average of seventy days for each patient. Diet was calculated at 4*d.* a day, doctors, nurses, medicine, lodgings at 8*d.* The institution had to spend at least 16,542*l.* 3*s.* on the wounded. The Government in seaports allowed 12*d.* a day for medical care; 6*s.* 8*d.* a head to a surgeon; 20*s.* for each amputation, all which worked out at about 2*s.* per man. It was claimed that 33,084*l.* was due to the hospital. The Commissioners for sick and wounded regarded the request as unprecedented. By a second report it was recommended that a bounty should be presented at the end of the war, as in that way a precedent would not be set up. The Attorney-General's opinion on the subject did him credit, for at a time when a law officer was expected to be the tool of authority he said, "There is not any power reserved to the Crown of putting any poor persons into y^t^ hospitall; therefore I dare not say it is a matter of right for the Crown to direct who shall be received into the hospitall." A similar application was made by St. Bartholomew's, where expenditure on building was needed.

In 1704 Hyde Park was surrounded by wooden paling. It had fallen into such a state that deer could not be retained in the enclosure, and the authorities decided to expend 3,600*l.* on a brick wall. Some of the owners of houses in Knightsbridge were able to obtain openings for their convenience.

The question of coinage was considered important in 1704. Charles II. sent for two of the Rotiers from France, and they received liberal commissions. A third brother came over and was also employed by the Government. Their sons likewise were engaged at the Mint. It is supposed that some of the engravers made dies which were sent to King James in exile. There were at least grounds for believing they were not altogether loyal. According to Walpole, one Harris, who was a player, succeeded the last of the Rotiers, and by the aid of Croker produced the first medal of Queen Anne. Then Sir Godfrey Kneller drew a profile of the queen from which a model was prepared by Bird, the sculptor of the pediment of St. Paul's. The queen did not approve of the attempt and a commission was given to an ancient member of the family of Rotier. He died in 1703, before the die was finished, and was buried in the Tower. In 1704 an effort was made to obtain an official graver in place of Harris. The applicants were a Colonel Parsons, Crocker, Rose, Fowler and Leclerc. Parsons and Fowler could not engrave, and the officers of the Mint suggested that there should be a set of gravers constantly brought up in the Mint, to propagate their art to probationers or apprentices. Artists were not, however, disposed to allow the Mint to monopolise their talents. Croker, Bull and Leclerc were appointed gravers. As they could not always be engaged on dies for coins, it was agreed that unless they were allowed to engrave medals they might soon lose the skill they possessed, and the coinage would suffer. They were therefore permitted "to make and sell such medals of fine gold and silver as did not relate to State affairs, and such medals as were made to reward persons by Her Majesty for good services, also such as had historical designs and inscriptions for great actions."

The history of architecture, painting and sculpture during the reign of Queen Anne is too well known to need any reference in this article. Wren was at the time engaged on St. Paul's, a part of which had been already opened for public worship. The queen retained him in all the public offices he had enjoyed under her predecessors. Vanbrugh was occupied with Castle Howard, and in 1703 he was attached to the Heralds' College, but it is unnecessary to notice facts which are already familiar to our readers.

MONGOLIAN REMAINS.

In his volume on Indian and Eastern architecture, which for many reasons is the most important of the series, Mr. Fergusson loses his usual confidence when he speculates on the origin of Chinese architecture. He sees evidence in the institutions which suggest that China is a counterpart of Egypt. The symbols of the two regions correspond. As he says, "In these and fifty other particulars the manners and customs of the two peoples seem identical, and the perfect parallelism only breaks down when we come to speak of their buildings." He assumes that the true Chinese are closely allied to the Polynesian races. He attributes the absence of great structures like those of Egypt and Thebes to the circumstance that the Chinese were without a dominant priesthood or an hereditary nobility. The Chinese are described as being tolerant in matters of religion so long as there is no interference in political questions. The division of property equally among his children at a man's death does not promote Domestic architecture, for the wealthiest people construct residences calculated to merely last their own lives. The royal palaces may be larger and more splendid than those of the mandarins, but they are similar in character.

Mr. Fergusson considered that if the Chinese were as closely allied to the Tartar or Mongolian tribes on the north-east frontier as is generally supposed, there might be a difference in the architecture. Anyone looking at a map of China will observe how vast a region exists between the Great Wall and the boundary of Asiatic Russia, and which may be described as a desert. Geographers and mapmakers are always unfavourable to blank spaces, and, as we can see on maps of Great Britain, places are mentioned which are so insignificant as to cause surprise among people who are familiar with the district. In Mongolia we have an example on a large scale of the significance of trifles. But, in spite of the maps, little is known to geographers about a vast region from which hordes may at one time have been dispersed over Asia and Europe, and which before long may also have an interest for the people of the West. It was only on Monday night at the meeting of the Geographical Society that the subject of "The Geographical Pivot of History" was discussed, and it was asked whether the pivot region of the world's politics was not the vast area of Euro-Asia, which was inaccessible to ships, but in antiquity lay open to the horse-riding nomads, and was to day about to be covered with a network of railways? It was no doubt with a view to obtaining information about commercial and political projects that Mr. Campbell, the British consul at Wuchow, one of the treaty ports of China, in 1902, travelled from Pekin, and following a north-eastern route, skirted the desert until he reached Buyr Nor, and then proceeding westward reached Urga, and finally Karakorum, the ancient capital of Jinghis Khan. Having to pass through about fifteen hundred miles of Mongolia, he was certain to come across remains of architecture if any existed which were worthy of the name, but it must be acknowledged that, although a great many ruins are described, they are not of the kind that would suggest a class of building likely to exercise influence in China or India.

Pekin was his starting-point, and in the plain around Mr. Campbell noted the enormous area of land devoted to burying places, for even poor people endeavour to keep a plot of ground set apart for private graves. The plots, however, are liable to changes, for it is said, "Not so long ago it was held that they offered insuperable difficulties to enterprises such as railways, but public opinion, pressed by the economic necessities of a huge population, is rapidly making it less of a crime to utilise them." In due course he reached the Great Wall, and went through the archway in the Nankau, or as it should be called Nan-k'ow, Pass, of which there is an illustration in Mr. Fergusson's book. It was erected in 1345, and he compares it with a doorway at Bhatgaon on account of the similarity of the ornament. "In the centre," he says, "is Garuda with a seven-headed snake-hood, and on either hand are Nagas with seven-headed hoods also, and the general character of the foliaged ornaments is so similar it is difficult to believe in so great a lapse of time between them." The arch is interesting as showing how Indian art came into China. For that reason we append Mr. Campbell's description of the structure :—

> The pass narrows, and there are fairly preserved walls still climbing the heights on either side which are said to have arrested the march of Jinghis, but the point of interest to the European traveller is the remarkable gateway called the Kuo-chieh T'a (the pagoda bridging the street). The name is explained by a tradition that at one time the arch supported a pagoda which was removed in the early years of the Ming dynasty because Mongols could not be induced to pass under it. From one of the inscriptions on the walls of the arch we know that the structure was completed in A D. 1345, and from another that it was repaired exactly a century later, in 1445. The first European to mention it is Gerbillon. In the journal of the first of his "Voyages en Tartarie" in 1688, he says :—"Un de ces bourgs pourrait passer pour une petite ville (Chü-yung Kuan). La porte par laquelle on y entre ressemble assez à un arc de triomphe. Elle est toute de marbre et a environ 30 pieds d'épaisseur, avec des figures en demi-relief jusqu'à la voûte." But he does not mention the inscriptions, and they remained unnoticed until Mr. A. Wylie, who had read of them in a Chinese book on stone inscriptions, passed through the gate in 1863. The results of his researches were published in 1870 in the "Journal of the Asiatic Society," and in 1895 facsimiles of the inscriptions were produced by Prince Roland Bonaparte in a magnificent folio. The arch is of white marble, the blocks being cut to form a ceiling of three plain surfaces on which Buddhistic figures are carved in relief. The walls of the archway from the spring downward are covered with similar carvings and with inscriptions in six languages, all of which are defaced and chipped, chiefly by the tremendous traffic through the gate. Five of these languages offered no special difficulty—Sanscrit (antique Devanagari), Chinese, Tibetan, Mongol and Uigur—but the sixth was unknown ; and although Mr. Wylie adopted the view of a Chinese author, that it was Juchen (Neuchih, Nü-chen), the national script of the Chin or Gold dynasty, who followed the Kitans as the dominant power in North China in the early part of the twelfth century, it was soon remarked that the few known specimens of Juchen writing did not help this identification. It is only within the last few years that Dr. S. W. Bushell, the physician at the British Legation at Pekin, established that it is a Tangut script, of which few specimens are extant. This writing was adopted in 1036 by Yüan Hao, the founder of the Tangut kingdom, and it seems to have been "modelled on the lines of the antique Chinese official script called Li-shu." In those days a new dynasty meant not only a new name for the territory and a new seat of Government, but also a new writing for official purposes. The Kitans, Juchens and Tanguts were each specially provided with artificial scripts, which soon became extinct after the disappearance of the dynasties ; specimens are now found only in a few stone inscriptions, coins or courier badges, or in Chinese works on antique bronze and stone inscriptions. The Chü-yung Kuan archway and a stone stele in a Buddhist monastery of Liang-chou, in the province of Kansu, called Ta-yün Ssu (Grea Cloud Monastery), are the only two considerable examples o the Tangut script which are known to exist.

Kalgan is an important town in China, for it guards the Great Wall and possesses Government offices and banks. A proof of its opulence is the number of temples. The police wear badges, on which is inscribed "Police of Kalgan," in English and Chinese. On entering Mongolia the traveller does not proceed far before he meets with the remains of two walled cities which have been long uninhabited. Of late years the demand for accommodation has caused the sites to be cleared. Mr. Campbell saw fragments of green and yellow tiles and a dragon's head in marble, but there was no inscription. The Great Wall at that place is not recognised as a political barrier, for Chinese settlers are gradually invading Mongolia. The Belgian Catholics have a mission at Hsing-ho ch'êng, and have purchased 2,000 acres which is cultivated by the converts on the métayer system. There are four similar missions in the district, and all are practically self-supporting. It is odd to find in such a place a brick chapel, with a roof of corrugated iron. Another deserted city called Balgas had walls of earth only. Chang-tu, which served as the summer residence of the Mongol emperors, still shows an archway of one of the main gates ; but the ruins are used for building purposes, and most of the interesting features were removed by vandal lamas, who made obas of them. Chagenhota (or white town) was also likely to have been an imperial residence. Mr. Campbell says :—

> The Mongols believe that all these old palaces and cities are haunted and that the spirits are prone to bring misfortune on intruders It seems to be an equal article of belief that gold and valuables are to be found in all ruins, but delving is tabooed, because it would infallibly involve the neighbourhood in disaster, murrain, drought or plague.

Indeed, East Mongolia cannot be called attractive, either for scenery, sport or archæology. The most important ruins which Mr. Campbell met with were those of Ying-ch'ang-Fu, of which he gives the following description :—

> The outer walls are a rectangle, 900 yards from north to south and 800 yards from east to west, and were originally some 20 feet high and 30 feet broad at the base. They are of sandy loam, and are now a succession of longitudinal mounds, which, from a quarter of a mile off might be mistaken for ordinary low sand dunes, and I can easily understand Przhvalski's omission to notice them. The walls face the points of the compass very nearly. Within there is no general spread of ruins as in Shang-tu, and I formed the opinion at once that the original contents were a few important buildings or a royal residence. In the middle of the northern half there are a series of ruins of a palace or temple. Of one large hall, which was 80 feet square, I counted forty-eight diabase plinths, 4 feet square, still *in situ* in two rows, and in the rear of it there is a rectangle 55 feet by 45 feet, formed of fifteen worked plinths of white marble, much damaged, on which, no doubt, rested the pillars of the most important structure. In front of these ruins, to the south, are two black stone (diabase) lions, and more to the south still are the almost unrecognisable trunks of two massive stone tortoises, near which are lying in the grass two mutilated monuments of white marble, with Chinese inscriptions of the Yüan period. In the north-west angle there are two raised mounds, with plinth stones scattered about, and the remains of what must have been a special raised enclosure of considerable dimensions; inside it there is the solitary tree of this deserted city—an aged elm, peopled by noisy starlings and sparrows. There are traces of three gates in the east, west and south walls, and inside the west gate remains of walls of inferior buildings can be traced. In the south-east angle I noticed two small stone lions (black volcanic stone), and here and there in the east half of the city there are ruins of smaller edifices. No portion of stone wall remains standing ; the place must have been razed and the monuments overthrown and defaced. I saw pieces of the royal blue tiles which I found in Shang-tu and in Kurtu Balgas (Hsin-liang-ch'êng).

He imagined he was the first European to notice them, but they were described by Père Gerbillon, the Jesuit, at the close of the seventeenth century. The palace was erected in 1271, and in it the last of the Mongol emperors died in 1368.

After travelling over 700 miles from Pekin, Mr. Campbell reached near Lake Bur, the Ikhe Borhan Sume, or monastery of the Large Buddha. It was in the hands of Chinese masons and carpenters, whom it took a month to reach the place on foot. They received seven or eight ounces of silver, or a pound a month. The Mongols are incompetent to do repairing, and recourse must be had to itinerant Chinese. On the hill-side near the temple enclosure was a prayer in Tibetan letters each 15 feet square. They were made of stones hammered into the soil, and were legible at a distance of 2 miles. At Parahota he was able to verify Gerbillon's description, for a *dagoba* of brick, which he stated was half ruined in 1698, although now crumbling, is still a prominent landmark. The Mongols live in circular tents of felt, and the only fixed habitations are the monasteries, which are generally of brick, though some are of timber. In most are pavilions and porticoes differing slightly from those of Chinese Buddhistic temples, but the design of the principal chapel is often pure Tibetan.

The travellers must have been glad when they reached Urga, which is the Rome of all Mongols. The Bogdo, or pope, is the third of the living gods of Lamaism. According to Mr. Campbell :—"The heart of the Mongol town is the Bogdo's palace and the temples for general worship, of which the principal is the Tsokchin. There are in addition twenty-eight other temples, each the special shrine of an ecclesiastical subdivision of the Khalha peoples, but these are largely composed of felt tents, and are far inferior to the Tsokchin, Maidari and other chief places of worship. Where these are, open spaces abound, but elsewhere Mongol Urga is a collection of blocks of palisaded enclosures containing low squalid huts, and separated by narrow streets and lanes, in which wheeled traffic is rare. Prayer-wheels of large size, sheltered by wooden sheds, are numerous in all the wider spaces, and by a touch of the hand as you pass along it is possible to say more prayers in five minutes than the glibbest tongue could repeat in a month. Away from the temples Urga is a dull, sombre place, and people acquainted with the inner life have nothing attractive to report about it." At Urga is the Russian consulate, with barracks to accommodate two or three hundred Cossacks.

In the course of a journey to Mount Kantec, Mr. Campbell found a noble tumulus measuring 250 yards by 200 yards and formed of loose stones. He believes it is the veritable tomb of Jinghis. The great conqueror died in 1227, and his remains were secretly brought from Shansi to Mongolia, and it was always doubtful where the body was interred. Various other barrows and tombs were examined. Among others one of Tonyukuk, which was discovered a few years ago by Madame Klementz :—

> When I reached this remarkable monument, which stands prominently on swelling ground two miles from the base of the higher hills, I could not help reflecting on the curious fact that two scientific expeditions, the Finnish of 1890 and the Russian of 1891, specially equipped for archæological researches, had spent some days at Urga, and a score of other scientific and inquiring travellers had passed within a few miles without hearing of its existence. It is a striking illustration of the narrow circle within which information on any Mongol antiquity is obtainable, and should be an incentive to further leisurely and systematic search.

Some of those tombs are more interesting in a philological than in an artistic sense, for there are inscriptions in bilingual Chinese and old Turkish, and by their aid much information has been derived. The last place Mr. Campbell visited was Erdeni Tsu, the first Lamaistic shrine established in the district and in the old Mongol capital Karakorum. It is the most venerated of Mongolian holy places. There is a square, each side of which is 500 feet in length surrounded by mud walls 15 feet high. Near the monastery the ground is covered with irregular mounds, in which were found broken brick, pieces of tiles and lumps of granite, showing traces of chiseling. Mr. Campbell believes that there stood Karakorum, and "if the Mongols could be won from their present rabid opposition to archæological delving, it might be possible to change this probability into a certainty."

Mr. Campbell remarks that if a Mongol of a.d. 1200 could again visit his native land the only strange sight would be the devotion of a third of his countrymen to spiritual things, and that they were able to live in magnificent buildings and formed a powerful organisation. "The dominant ecclesiasticism is the great social factor which distinguishes the old Mongol society from the modern." It cannot be said, however, that the priests exemplified Mr. Fergusson's theory, that in all countries where architecture has been carried to perfection it is due to a sacred art under the influence of a powerful hierarchy. No sign exists, at the present time, of any desire to possess substantial buildings, and the British Consul's researches have not revealed any evidence that in the past more attention was given to construction. At all events, it seems to be clear that Mongol invaders could not have carried any civilising process into India or China, and if we desire to find earlier models for the buildings in those countries we must seek them elsewhere than in the neighbourhood of the Mongolian deserts.

THE IROQUOIS THEATRE.

In the article which appeared in *The Architect* of the 8th inst. on the fire at the Chicago theatre, the theory was adopted that the cause of the disaster was not defective construction, but negligence in the administration. That was the interpretation which we gave to the excited telegrams which had appeared in the papers. There was not a line of information from an expert, and ordinary journalists were to be excused if on looking at the building and seeing chairs which were destroyed, metal railings which were twisted out of shape, walls which had been laid bare, and beams and columns from which the outer covering had fallen, they came to the conclusion that the building had succumbed. Only one of the American technical journals, the *Engineering Record*, has come to hand, but the information it contains is sufficient to confirm the conclusions we arrived at three weeks ago.

The articles are illustrated by three photographs which present the chaotic appearance which must be expected after fires which did not cause excessive damage. The stage, for instance, is covered with the débris of scenery, pipes for heating have fallen from their places, some small iron beams are twisted, but the walls appear to be sound and straight. There are some partitions with columns which were evidently protected by plaster with wire, but although there are signs enough of a fierce attack they continue to appear as stable. In the auditorium the upholstery of the chairs has vanished, but the frames of many still stand. The divisions between different parts of the theatre on the pit level are definite. As the American writer says :—"To one who examines the condition of the building it does not seem possible that a fire so fierce and accompanied with such destruction of life could have produced so slight an effect on the structure of the building. It will require but little more than the plastering and redecorating of the building to restore it." The law officer of the Chicago Fire Department has expressed the following decision about the causes of the fire :—"Evidence submitted under oath proves conclusively that had the skylights and ventilators over the stage of the Iroquois Theatre been open and the openings over the auditorium been closed, there would have been no fire in the audience-room of the playhouse and no lives need have been lost by panic."

If greater watchfulness and judgment had been exercised the fire could have been confined to the stage and the parts above it. Unfortunately the proscenium curtain was unable to descend ; the skylights over the stage were not of an automatic description, and could not be opened when desired. This is the more to be regretted as a girder, 5 feet deep, which carried the brickwork over the proscenium opening, which is generally considered to be the most dangerous part of a theatre, remained practically unaffected by the great heat below it. The steel plates were protected by cinder-concrete, and although the plaster succumbed to what was a furnace, the concrete as well as the girder withstood the flames. This beam, as well as other parts of the building which remain in their original condition, are the best answer to the exclamation of one of the proprietors when he asked what was the use of paying for fireproof construction. In fact, the possibility of protection has been demonstrated by the condition of the Iroquois Theatre.

Crowds had gathered to witness a spectacle on the stage. The materials required for producing marvels of illumination, together with the burning properties and scenery, produced gases which filled the house. There are grounds, therefore, for the statement that "The general cause of the hundreds of deaths is assumed to have been suffocation, which must have come very quickly, for many people were found dead in their seats in the position of watching the stage." In spite of the panic, the majority of the audience in the orchestra were able to escape, but those on the first balcony and the gallery had to encounter obstacles which were created by carelessness. There were doors, and the fastenings are reported to have been of a simple kind, but in the crucial moment they failed to act. We have not yet read the explanations given at the inquiry, but apparently the blame must be divided between the management and the fire department. The latter was believed to have examined the house, and it would be a very narrow interpretation of duties to be content with glancing at the parts which were perfected and to give no attention to the means of exit. The verdict of the jury attaches blame to the Municipal Council as well as the management.

It is not to be expected that any skill on the part of an architect will provide against stupidity or negligence among theatrical assistants. Speaking generally, his office is with things which remain fixed, such as walls, beams, columns, partitions. Parts to which motion can be given with few exceptions are outside his province. In Chicago the danger was confined to things which should move, but which failed in the emergency. Everyone knows how easy it is to interfere with a pulley or a cylinder, and it is not to be expected that an architect should be present whenever one is to revolve in order to remove whatever retards the motion. The necessary supervision can be given by men of a different class, but it is essential that they should be on the spot and be held responsible for any neglect of their duties. We might also add that some means should be taken to impress the public with a sense of the risks in which they involve themselves as well as others when they lose all self-control at the remotest suggestion of risk. It can be said, without fear of contradiction, that the casualties by fires in theatres would have been vastly reduced if the spectators were less frantic in their endeavours to force their way out of the building. It is possible to provide for safety under dangerous contingencies, but when crowds are deprived of their reason it is beyond external power in the majority of cases to prevent them from sacrificing one another. Even assemblies in the open air can be turned into brutal contests in which innocent victims must perish. People who cannot control themselves, and who are disposed to be hysterical, should avoid assemblies of all kinds.

It is much to be regretted that those who undertake to advise the public about conduct lack the courage to suggest how often spectators suffer through their own excitement. From what appears in many journals, and, we might add, from the occasional statements of architects, it might be concluded that the majority of the designers and builders of theatres are incompetent, and the competent men are not allowed opportunities to preserve the public from danger. That is a fallacy which is not only false but ridiculous. As long as in entertainments inflammable materials and explosive substances have to be employed there must be risks. If spectators have to be placed in tiers, there must be staircases which can almost instantaneously become blocked when a commotion arises among the people using them. Mismanagement is also possible, and it certainly is disgraceful that in a time like the present the gangways of theatres and music-halls in the provinces as well as in London should be congested by spectators. Theatres in which such a practice is tolerated should be avoided. If it is possible to devise better arrangements, by all means let them be announced, but playgoers may be assured that it is only in exceedingly rare instances that a modern theatre is unsafe through its construction, and then it will be found the danger arises from some neglect of the provisions specified by the architect.

M. Gerôme, the French painter, before his death was able to design all the costumes for the new opera by M. Saint-Saëns, called "Helène," which will be performed for the first time at the theatre of Monte Carlo.

CHAPTER-HOUSE, WESTMINSTER.

THE following reports by Professor A. H. Church, F.R.S., concerning the treatment of the decayed stone in the chapter-house, Westminster, have been issued. The first is dated May 28, 1901, and says:—I purpose arranging the materials of this report in four sections, dealing in succession and as briefly as possible with (1) the nature of the original stone; (2) the causes and results of its decay; (3) the treatment advised; (4) the results and *rationale* of that treatment.

1. *The Nature of the Stone Affected.*—The thirteenth century work in the chapter-house was mainly executed in an inferior kind of sandstone from one of the lower beds of the Upper Greensand. This stone, known as firestone and Reigate stone, consists chiefly of silicious sand with some glauconitic grains and particles of mica, all cemented together by means of carbonate of lime, the latter constituent varying from 7 up to 15 per cent., possibly more in some instances. Freshly quarried the stone has a greenish grey hue, is rather porous and fragile, and weathers badly on exposure to atmospheric influences. It contains mere traces of soluble saline matters, such as chlorides and sulphates of the alkalis and alkaline earths. It is rapidly disintegrated by water containing almost any kind of acid. Treatment with weak sulphuric or hydrochloric acid causes a brisk effervescence, due to the escape of carbonic acid gas from the carbonate of lime, which, as before stated, is the chief cementing material in this stone. As a result of this action its constituent grains fall apart, and the continuity of the material is wholly lost. One other remark is needed concerning the fresh stone—the reaction to test-papers of its watery extract is neutral, neither acid nor alkaline.

2. *The Causes and Results of the Decay of the Stone.*—The most obvious result is disintegration—the particles no longer cohere. In many portions of the carved and ashlar work a light touch with the finger or with a sable brush brings off the face, often as a crust of some thickness. And the decay is not confined to the surface, but has in many places penetrated to the depth of two or more inches. Another change is shown in the permanently acid character of the watery extract from the decayed stone and in the very large quantity of soluble salts which this extract contains, ranging from 4 up to 6 per cent., even when the quantity of water employed to prepare the extract has been limited to fifteen times the weight of the decayed stone taken for the experiment. The salts are chiefly the sulphates and chlorides of calcium, magnesium, potassium and ammonium. I should add that the watery extract has a decided yellow colour. I cite now a partial analysis of the powdery stone collected from the decayed face of the mouldings and walling of the northernmost side of the chapter-house. It contains 8·31 per cent. of sulphuric anhydride (SO_3), 0·37 per cent. of chlorine (Cl) and 0·05 per cent. of ammonia (NH_3), all these substances being practically absent from the stone as quarried. These figures, with many others of similar import, obtained in the analysis of other specimens of this decayed stone, showed that the sulphuric acid of the Westminster atmosphere has been the main cause of the decay. It has attacked the carbonate of lime or calcareous cement of the stone and has turned it into gypsum—in so doing disrupting the material. The sulphuric anhydride (otherwise sulphur trioxide) found, corresponds to no less than 17·85 per cent. of gypsum, indeed there was no carbonate of lime left, and the decayed stone no longer effervesced with acids. The chlorine found in my analysis indicated another destructive agent at work upon the stone, namely, hydrochloric acid, in part derived from the operation of glazing stoneware with salt in the Lambeth potteries. But the ratio between the hydrochloric acid and the sulphuric acid comes out about 1·27, so that I cannot attribute a large share in the damage wrought to the former acid. In the chapter-house stone the ammonia found is a negligible quantity, but it occurs in larger proportions in the decayed stone of the entry, and in that of the cloisters themselves.

3. *The Treatment Advised.*—I was led to think of the special treatment of the decayed stone now recommended by more than one consideration. The mischief having been done by acid, let us try to repair it by a base, which, at the same time, shall convert the gypsum now present into something less soluble which may act as a binding material. There is but one base available, namely, the earth baryta, and, so far as I know, but two compounds of it, the aluminate and the hydrate. The former is difficult to prepare and to preserve, and does not penetrate the decayed stone so readily and so far as the hydrate, although a much stronger solution of it may be made. On full consideration of the subject, and after many experiments with the decayed stone, I came to the conclusion that pure baryta-water, that is, a solution in water of barium hydrate (or hydroxide, BaH_2O_2) saturated at the summer temperature, when it contains about 3 per cent. of baryta (BaO), would probably achieve the end in view. I proved by direct trials that this liquid penetrated the decayed stone to a depth of several inches, and that it did not possess any tendency to form an impervious crust on the surface. I further found that

a few applications of the liquid produced no appreciable hardening and consolidating effect on the decayed stone, but that a point was at last reached when after the sixth, or, it might be, only after the twelfth treatment, the stone was not only completely reconstituted, but had become harder and more solid than when in its original condition.

The Baryta method demands certain precautions in practice. Dust should be removed from the surface to be treated by means of a jet of air, which may be conveniently produced by a Fletcher foot-blower. Then the baryta-water should be applied by means of a White patent pneumatic diffuser to the tender surfaces of the decayed stone, the use of a brush of any kind at this stage being inadmissible. As baryta is decidedly toxic, the workmen engaged in spraying the stonework must be cautioned as to the necessity of washing their hands before eating; it is advisable for them to place a crystal of sulphate of soda occasionally on the tongue and to swallow the solution formed; by this means any soluble barium compounds in the mouth are changed into the insoluble and innocuous sulphate. After several sprayings and the lapse of a few days the stonework will have become hard enough to bear the application of a paint brush freely charged with baryta-water. Some parts are sure to need more frequent applications than others: it is easy to ascertain by the touch when the induration is complete.

4. *The Chemical Results and the Rationale of the Treatment.*—The chemical action of baryta-water upon this decayed stone consists essentially in the conversion of the sulphate of lime present into sulphate of baryta, with the simultaneous production of hydrate of lime. The sulphate of baryta being insoluble, cannot in the future be altered by acid in the air; the hydrate of lime will be reconverted gradually into carbonate and will then have reassumed its original state in the stone. The minor chemical actions occurring are negligible, but there are two that may be here noticed. These are the liberation of any ammonia in the decayed stone and the neutralisation of its acidity. I ought to add that all the trials of the baryta method, whether carried out in the chapter-house itself or in my laboratory during the last twelve months, have led me to the conclusion that the good effects of this treatment are not only permanent, but are not in the least likely to be followed by any bad consequences in the future, although it may be necessary to repeat the treatment on some subsequent occasion.

After the baryta treatment a slight white film of carbonate of baryta appears upon the stone. If thought desirable it may be easily brushed off, but in reality it constitutes a defence against the further attacks of atmospheric acids. This white film may be concealed by a delicate dusting with raw umber in fine powder, which gives the surface the precise tone which it acquires by the deposit of sooty and tarry matters from the atmosphere.

A. H. CHURCH.

Shelsley, Kew Gardens

P.S.—The treatment of the painted surfaces in the chapter-house will be made the subject of a brief supplementary report.

The second is dated November 18, 1903.

The particulars given in the present paper are in continuation and completion of those which were embodied in my report of May 28, 1901.

As the preliminary trials in 1900 of the treatment with baryta-water appeared wholly successful after the lapse of a year, four bays of the chapter-house were operated upon in the summer of 1901, and the remaining four bays in 1903. The outer or western face of the entrance archway, which had been sprayed four times with the solution in 1901, was again treated several times at the end of July and the beginning of August in the present year, to complete the consolidation of those parts which were most decayed. It should be added here that a decayed Purbeck marble column and the lower part of the adjacent jamb of a doorway in firestone had been treated by the baryta process in the summer of 1901. This stonework is situated on the right-hand wall of the entry, close to and just outside the gates which divide the entry into two sections, the eastern and the western. The interest of this test lies in the success which has attended the treatment of a second kind of stone, namely Purbeck marble.

The actual amount of baryta-water employed in treating the decayed stonework of the interior of the chapter-house and the exterior of the entry-bay was 220 gallons, the area covered being about 560 superficial yards. It was found that in the first spraying one gallon sufficed for 21 superficial yards, and for 21 to 26 yards in the subsequent sprayings and paintings. On an average the whole surface was treated nine times, the band of ashlar work above the arcading being included in the treatment.

At the ordinary summer temperature one gallon of a saturated solution in water of slaked baryta (barium hydroxide or hydrate) contains, or should contain, an amount of this compound corresponding to 2,100 grs., or 4 ozs. 350 grs. of barium oxide or baryta. One gallon of the corresponding lime-water contains no more than 88 grs. of lime, or, in other words, lime possesses about one twenty-fourth the solubility of baryta. As, however, the combining proportions or equivalents of these two bases are baryta = 153, lime = 56, baryta possesses but one-third the saturating power of an equal weight of lime. This fact might be supposed to indicate that baryta-water would prove no more than eight times $\left(\frac{24}{3} = 8\right)$ as effective as lime-water in the treatment of decayed stone. Actually, however, the case is very different, since lime-water effects no appreciable consolidation of such stone, while baryta-water, if applied freely enough, produces the striking results obtained at Westminster, owing to its specific action on the calcium sulphate in the decayed stone, as described in section 4 of my report of May 1901. It may be useful to state that the actual weight of baryta (BaO) which the decayed stonework in the chapter-house has absorbed, after making an allowance of 16 lbs. for accidental loss of material, and for the occasionally imperfect saturation of the solution used, approaches 50 lbs. avoirdupois.

One advantage over most other preservative solutions possessed by baryta-water lies in the depth to which it penetrates the decayed stone. In some laboratory experiments on firestone from Westminster cloisters this depth exceeded 3 inches. In fact, by repeated sprayings and paintings the decayed stone is hardened, as it were, from the back and not merely at the surface. The formation of a superficial crust is avoided, and it is not, indeed, until the deeper parts of the stone have become consolidated and thus less porous that the parts nearer the surface receive the full benefit of the treatment. In fact no appreciable consolidating effect was produced upon the worst portions of the surface until it had been sprayed four times at least, while the deeper parts were found to have been already hardened.

With reference to the employment of baryta-water in the protective treatment of stone the following observations are put on record. More than forty years ago I patented a process for preserving stone (January 28, 1862, Patent No. 220) in which baryta-water was used alternately with a solution of free silicic acid in water—not an alkaline silicate. In that patent (page 5, lines 19-22) I stated as follows:—"In certain cases I not only permit the stone or other material to absorb as much as possible of the above-named solutions, but I repeat the consecutive application of the two solutions." Such treatment, though it has answered well when applied as a protection to new stonework, has one drawback when used on decayed material—the silicic acid solution clogs the pores of the surface and prevents the baryta solution from penetrating the stone to a sufficient depth. It should be mentioned that the use of baryta-water, associated with solutions of certain fluorine compounds, was claimed in a petition dated June 6, 1861, of the late Mr. Jesse Rust, but the patent was never completed. In fact the derivatives of hydrofluoric acid, which were to be used alternately with baryta-water, involved the same disadvantages as the solution of silicic acid in the patent of 1862. The employment of solutions of the silicofluorides of aluminium and alkaline earths, originally suggested by Mr. (now Sir) William Crookes, has survived in the application of the so-called "fluate," which certainly affords a measure of protection to uninjured limestone, but is useless in such a case as that now under consideration. There were two reasons which prevented the employment of baryta-water alone as a stone-restorer and preservative until my Westminster experiments. One of these reasons was the failure to realise the fact of its efficiency when applied an adequate number of times; the other reason was the cost, not of material, but of labour.

A word must be said in conclusion concerning the condition and treatment of the fragmentary wall-paintings still to be seen in the chapter-house. The earlier and better of these, upon the flat surfaces of the arcading on the east side of the octagon, belong to the middle of the fourteenth century (see Eastlake's "Materials for a History of Oil Painting," Vol. I. (1847) pp. 178-181). As the stonework on which they had been painted was in a sadly decayed condition, it was treated with baryta-water in the way already described. It was hoped that the solution would penetrate behind the paintings and consolidate the ground. This hope was realised in part, but some portions of the surface layer of paint and gesso are still almost detached from the stone behind them. The remains of wall-paintings on the south-eastern, south and south-western bays were similarly treated, but to the later and poorer work of the north-western bay, painted about the end of the fourteenth century, no baryta-water was applied, for it was firmly attached to the wall. The surface was, however, first cleansed with distilled water, then allowed to become dry, and finally treated with oil of spike-lavender containing a very small quantity of Mr Gambier Parry's spirit-fresco medium. This was done because the varnish applied to these paintings by Sir G. Gilbert Scott could not be safely removed, although it had become dull and dark. So it was necessary to apply a liquid which would partially restore the translucency of the obscuring layer of varnish. It is proposed to treat in the same way the remaining fragments of painting in the southern bays.

Shelsley, Kew Gardens. A. H. CHURCH.

NOTES AND COMMENTS.

THERE is no member of the Société des Artistes Français who has toiled more strenuously for its success than M. TONY ROBERT-FLEURY. He was the moving spirit for several years, and his influence still prevails. He may not always have been wise in his direction. The existence of a powerful rival salon is sufficient evidence there was some defect in government, and from time to time dissensions are made known which could only arise from over strict control. For them M. TONY ROBERT-FLEURY should not be made to bear the whole responsibility, but his position in the Society was so marked, people could not fail to associate him with failures as well as with victories. The esteem which he has gained is suggested by his election as President of the Society in succession to M. BOUGUEREAU. That may seem only an ordinary event, yet it shows a departure from the usual procedure in such cases. Hitherto the presidents have been members of the Academy of Fine Art. M. ROBERT FLEURY is not only not a member, but we doubt if he has offered himself as a member; his turn may come. His attention to the affairs of the Society has not been beneficial to M. ROBERT-FLEURY as a painter, for his productivity has been diminished.

AN arrangement has been adopted by the Boston Society of Civil Engineers which could be imitated advantageously in this country. Engineering, and architecture also to a less extent, are becoming so vast in their aims, it is impossible to prevent the creation of specialists whose co-operation is more desirable than their opposition. The Boston Society has therefore established sections for the consideration of special branches. In every section there must be at least ten members of the Society, but non-members can also be elected, who are to be entitled to attend all meetings and excursions, to use the library and to receive the publications of the Society, to take part in the discussions of any papers on professional subjects or of any business affecting their particular section at any such meeting, but shall have no vote, except in their section. In other words, the Society can have the benefit of the special experience of the sectional members, while the latter will be able to gain by the more comprehensive views of the others. As the fees are not more than 5 dollars a year, members of sections may, in course of time, become members of the Society; and, on the other hand, sections can be abolished whenever that course is found to be necessary.

IT is generally supposed that "La Belle Sauvage," a title which is associated with Ludgate Hill, was POCAHONTAS, the daughter of POWHATAN, the Indian chief of the tribe that occupied the part of the United States called Virginia. The latter name was a compliment to Queen ELIZABETH. The first colony was founded in the time of King JAMES, and as the settlement was on the banks of the river called Powhatan it was called Jamestown, and the river James river. The London company to whom the king granted South Virginia was able to send out no more than 105 men, and within a few months fifty of them died. The rest became discontented, and all would have perished if it were not for the tact shown by Captain JOHN SMITH. He was taken prisoner by the Sachem tribe, and some of his companions were slain; he was saved by POCAHONTAS, the daughter of the chief, and returned to Jamestown, which he enlarged and fortified. Afterwards some 500 emigrants arrived, but they were undesirable additions, and SMITH found it difficult to exercise authority over them. He was compelled to return to England, and subsequently served on the Continent against the Turks. Under Sir THOMAS YEATES more order prevailed in Jamestown. POCAHONTAS married JOHN ROLFE, and the event reconciled her father to the adventurers. She came to London with her husband in 1616, and received some attention from the Court. The tradition is that JOHN SMITH was not pleased at her presence. The princess embarked at Greenwich to return to Virginia, but she died soon after, and her body was buried at Gravesend Many families in Virginia claim descent from her. It is interesting to find that a pulpit made from timber which grew in the forests with which she was acquainted has been sent to the Rector of Gravesend. A fund has also been raised to place a stained-glass window in the church.

FRENCH artists are now the chief agents in upholding the belief in the glory of the First Empire. As they need only take a one-sided view of events, or, in other words, look on their picturesque aspect, they are not likely to express the real effects which followed from grandiose but unwise actions. French students of history are aware that the invasion of Egypt by BONAPARTE was only a piece of theatricalism, which quickly exploded and brought harm to France. The General ran away from the expedition, for he knew that if he stayed a longer time his own prospects would be obscured. Yet one of the disappointments which preyed upon the late M. GERÔME unto his last days arose from the indifference of the public, who would not subscribe the money required to carry out a vast combination of architecture and sculpture for the glorification of the man who was not afraid to order his wounded troops to be poisoned at Jaffa. M. GERÔME endured another dolour. He proposed to erect an allegorical group representing a dying eagle, which he wished to erect on the field of Waterloo, but in that case also the money was withheld, and GERÔME consequently became unfriendly towards his countrymen for assessing the value of military glory by its results.

AT the present time not much importance is attached by Frenchmen to the residence of the popes in Avignon. It is generally assumed the papal court was an incubus from which France was glad to be free. In other countries the French view is taken, for few care to investigate the causes which compelled the popes to abandon Rome. A series of articles in *L'Art* by M. LEBANDE, the conservator of the Musée Calvet at Avignon, will reveal the part taken by the popes in one of their efforts to repay hospitality, viz. the foundation of the convent of Célestines. It was not the only work of the kind which was undertaken. M. LEBANDE says that when the popes came to the city it was not important in an architectural sense, and when they left it it was a true capital, in the embellishment of which artists had been employed from all parts of the world. The illustrations show the great interest of the building, but it has been subjected to many alterations; Gothic, however, prevails over the later Renaissance additions. It is hardly necessary to say there is much else to repay attention in each number. The year was closed with the presentation of an etching by M. IVERT VAN MUYDEN, *Etalon Percheron*, which is a remarkable example of animal drawing in the freest style. It deserves to be adopted as an example for imitation by our young artists. The twenty-fourth year of *L'Art* has begun under the most favourable conditions for subscribers.

ILLUSTRATIONS.

CATHEDRAL SERIES.—CHESTER: MOSAICS IN AISLE.

WHEN we remember the prejudice which prevailed against pictorial representations in English churches, it denoted no small courage on the part of Sir GILBERT SCOTT to introduce large figure-subjects in mosaic in the north aisle of Chester Cathedral. The style of production differed from paintings in oil or fresco. Worshippers and visitors could not accept them as auxiliaries to superstition. When the building was erected several means were allowed to diminish the monotony of plain masonry. On the Continent the interiors of churches and cathedrals have not the coldness which has to be endured in England. An altar, a statue or a painting will brighten a wall. It may have been in order to overcome the defect that monuments were introduced on the walls of English churches to an extent unparalleled in other countries. The Chester mosaics relate to scenes in the Old Testament, beginning with the History of ABRAHAM. It was no doubt intended that a companion series from the New Testament would afterwards be introduced. The cartoons were prepared by Messrs. CLAYTON & BELL, and the mosaics were executed by Messrs. BURKE & Co. A low scheme of colour had to be adopted, in order that the scenes might not be obtrusive.

HOUSE AT BANSTEAD, SURREY: SOUTH FRONT.

A COUNTRY INN: THE WHEATSHEAF, REDHILL.

A COUNTRY INN: THE CRICKETERS, DORKING

MIDLAND HOTEL, MANCHESTER: CONCERT-ROOM.—WINTER GARDEN.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last, Mr. Louis Ambler, hon. secretary, presiding. Messrs. G. Sherrin, jun., and J. C. Moor were elected as members. Messrs. H. A. Douglass, C. J. Tait, J. L. Crickmay and E. M. Joseph were reinstated members.

Mr. MAURICE B. ADAMS read the following paper, entitled:—

As to the Making of Architects, with Examples of Draughtsmanship.

All who aspire to become worthy of the delightful pursuit of architecture will readily admit that the subject which furnishes the title of this germane paper is of paramount importance. To the members of the Architectural Association the inquiry naturally presents a theme of particular interest, and however opinions may differ as to the details of the curriculum to be employed in the making of architects, few are likely to disagree in the abstract as to the vital character of a matter so intimately associated with the qualifications and equipment of those who are entering upon the profession of architectural art. We live in an age distinguished above all things by educational competition, while a correspondingly restless ambition actuates all sections of the community, and in nothing perhaps is zeal displayed more conspicuously than in technical educational projects intended for the bettering and amelioration of the professional and working classes. It is impossible for any class to remain indifferent in this matter, and no one who has to earn his own living, to put it on the rock-bed of existence, can afford to be left behind. The bread-winner has no choice but to work strenuously; and, if distinction is aimed at, no shifts or working by halves will do. The *sommités* of the profession assure us that "there is plenty of room at the top." In less fortunate circles, however, each year every worker no doubt finds more effort is needed to maintain a place of security on the ladder of success, and certainly more service of a higher standard of efficiency has to be rendered. For architects beyond all question the survival of the fittest alone remains a certainty, consequently a more excellent status is inevitable. Thanks to the enterprise of a few, an advance towards proficiency has already been made, and some steps have been taken to improve the methods in vogue for the making of architects.

The disinterested and capable work carried on by the Architectural Association during so many patient years furnished the basis of operation, and induced many to desire something higher and more complete. It thus came about that the educational scheme has lately expanded, with the notable result that the architects' day school has entered upon its initial stage, and thus far may be accepted as an accomplished enterprise demanding our hearty and united support. The success attending this decided departure suggested to me the idea of promptly assisting its development by bringing about the free gift of the collection and buildings of the Royal Architectural Museum, so as to solve without further delay the long experienced difficulty as to the acquisition of more suitable accommodation in which to conduct this great work. As so many are still under the impression that the Museum was in financial difficulties, let me again say that this was not so, because the annual income which we for years past administered at Tufton Street amounted to between 1,500*l.* and 2,000*l*, and the Museum had no monetary liabilities whatever.* It is a matter of congratulation that this important transfer was rendered possible by the unanimous concurrence of the Council and subscribers of the Royal Architectural Museum, who would not have handed over such an exceedingly valuable property to the Architectural Association had any doubt whatever existed as to the merits of its present educational undertakings.

We stand, however, only on the threshold of the movement, which has now entered upon another phase, owing to the recently formulated design of the Royal Institute of British Architects for establishing teaching centres for architects in various big towns all over the kingdom, under the advisory control of an educational committee at Conduit Street composed of some of the foremost architects and educationalists of the day. It will thus be evident that we have only commenced the task which stretches out with increasing interest, looming large in the potentialities of the future. The necessity of a more systematic plan of educating students in architecture is being more clearly recognised and more generally accepted. I am persuaded that nothing is better calculated to break down the barrier of union between those within and those without the pale of the Institute than this fundamental question on which all the best architects are agreed. The primary object of this enterprise, which thus stimulates the imagination, is not concerned so much in furthering professional interests as in promoting better building and more excellent architecture. This is the standpoint whence I propose to consider my subject, upon the choice of which permit me to say one word. The committee in arranging the series of specialised topics for discussion during the current session, requested me to contribute a paper on "Pen Drawing." Already, as some here may remember, I have read two papers in these rooms on "Architectural Illustration and Drawing." It appeared to me, therefore, that we might with some advantage on this occasion diversify the consideration of draughtsmanship by carrying our conclusions beyond the limitations of the sketch-book, the drawing-board and the tee square. Besides this, since I relinquished my charge at Tufton Street, without being cognisant of what others have been doing in respect to this question of education for architects, I have realised the liabilities involved in the step which has been taken, and consequently appreciating fully the accruing responsibilities which are calculated to tax our resources very seriously, I beg leave to avail myself of this opportunity to impress upon everyone whom I may hope to influence the abounding need of a united effort to see this matter through successfully in the honourable disinterestedness of *esprit de corps*. We must rise to the occasion, and incidentally it may be timely to recall the American citizen's loquacious observation as to the "risk of attempting to stop half-way while going up a waterspout or down a waterfall." The unkindest chill of all would be that inflicted by the wet blanket of indifference among our fellows.

In respect to drawing, I do not intend to overestimate its value. I am fully cognisant of the current fashion to warn students against the trick of draughtsmanship. The business of an architect is to build and not to draw. A good building perhaps might be erected without good drawings, but it is almost always certain that the best designs are shown by the best drawings Michel Angelo said, "Let whoever has attained to the power of drawing know that he holds a great treasure." Art consists in the tangible and capable expression of an artistic idea, and good building as a definition is not intended only to mean utilitarian work, though of course it comprises structurally sound thoroughness and practically planned buildings arranged with due regard to sanitary construction. To all this there must be added, however, an embodiment of good proportions which shall govern its design by refined perception of architectural grace and taste in style. Its conception must be the result of personal thought and distinguished by the imprint of a vitalising individuality. These, surely enough, are the qualities essential to the making of beautiful and convenient buildings, each in its degree and size adapted to the everyday needs of our domestic and municipal life. The architect's chief endeavour, notwithstanding the surmounting weight of our commercialism, should be devoted to the production of thoughtful and artistic buildings worthy of our national greatness and in harmony with the aspirations and activity which distinguish the political, ecclesiastical and philanthropic enterprises of the empire.

In spite of the adverse conditions under which we not infrequently have to build, and the haphazard way in which competition designs are chosen, also not forgetting our many personal shortcomings, this enumeration of what ought to constitute our ideal is no pragmatic afflatus or Barmecide of buttery adjectives. We cannot regard with complacency the lost chances and wasted opportunities which so many pretentious and inconsequential buildings throughout the land continue every day to place on record. We must deplore the popularity of such chaotic and petty productions, devoid as they are of all breadth and tasteful solidity, an eyesore and an incubus prepared for posterity. Ruskin justly said such work is beneath the mark of attack and the level of contempt. The order of the day is cheapness, and that has much to answer for, but moneyed imbecility is the worst imbecility of all Most of the common architecture of our cities is simply that, both vulgar and expensive, heralding its costliness from groundline to ridge as if obtrusive opulence might be accounted a virtue.

Although it will perhaps be said that the average quality of contemporary design has in some ways improved of late, no one can doubt that vast room for betterment exists. Assuredly if we would develop the art of our time it will not be done by posing with a patronising aloofness of superiority, but by a manly grasp of the fascinations of the day, its possibilities and its needs. We shall never better our work till we give it more size and boldness, and by omitting outlay on finicking finishings spend more on thickening our walls and in giving recess to our doorways and window openings. With regard to the making of architects, we must insist upon the study of solids and voids as a matter of the utmost consequence, for without a recognition of the importance of shadow and value of wall space our facility of draughtsmanship and paper proportions becomes illusive, and can avail us nothing in comparison with the spacings of light and darkness. "The one must be broad and bold enough not to be swallowed up by twilight, and the other deep enough not to be dried up, like a shallow pool, by a noonday sun." Bald crudities and uncouth oddments in building design possess nothing in common with architecture, though it may be admitted that fads and mannerisms have had perhaps their passing uses by furnishing a counter irritant to the normal commonplaces of ugly dulness of which we certainly have had our share. Singularity, however, is a vastly different thing to good taste, and "L'Art Nouveau" supplies no substitute for beauty in form or the spirit of good design. Such a perverse masquerade of singularity, in the hope of obtaining credit for originality, may for the nonce impart a degree of picturesqueness to the architectural horizon, and the flauntings of a shallow independence of precedent with the intent of seeming clever may afford a temporary relief from the sunless monotony of dismal propriety, but the debonair of to-day thus indulged only incurs the inevitable reaction of to-morrow, demanding equally unsatisfactory stimulants in the form of other extravagances. Smart adroitness is a marked characteristic in all Baroco work, but its cleverness is only of the stop chamfer type, and soon tires.

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* This income of the Museum ceased, of course, when the School of Art was closed, and the subscriptions stopped on the transfer of the Museum property to the Architectural Association.

Mistaken departures such as these are due to a disregard or lack of a just appreciation of true principles, with the consequent loss of worthy ideals, in the absence of which taste is accounted as if it consisted in the aimless accumulation of so much quaint bric-à-brac or the bathos of tawdry gossip in design. First one transitory craze and then another, with no more substantiality than a fashionable wall-paper, becomes the vogue in the chase after novelties, while, with the same intent, other caterers for popularity attempt to evolve an "eclectic" style by an incongruous blend of the peculiarities of several historic styles rolled into one. Before we can hope to educate the public in discriminating between such vagaries we must disassociate ourselves from this sort of thing and, by showing a better way, endeavour to overcome the complacency with which the public accepts the ugly in preference to the beautiful in all things belonging to building. How long are architects to placidly accede laying down to this prevalent choice of bad designs instead of good ones? In establishing a more systematic schooling in architecture we are taking the only reliable road to reform in such matters. The enterprise entails a serious effort, but that which is not worth an effort is not worth doing at all. Architectural laws can and ought to be taught in our training schools just as plainly as English and spelling and grammar are taught, and there is no reason why building construction treated specially from an architect's standpoint should not be scientifically taught and practically demonstrated in properly appointed workshops all over the country. The whole movement must be directed and considered as a unified explanation of building requirements in their bearing upon the actual practice of architecture, dealing with its problems in the round rather than in the flat or on paper, and we ought also to form, with this object, a well-selected series of exhibitions of modern building appliances of the most recent make, making the choice of improved contrivances and of all kinds of materials quite apart from any advertising considerations In arranging such an enterprise as is here indicated, let it be clearly understood that those who have identified themselves with it so far lay claim to no special prescience, and have not the smallest wish to arrogate to themselves more than their share in this matter. The project must be co-operative in the sense that it needs the cordial help of all concerned. If we are unable to see eye to eye in all matters of taste we can and must stand shoulder to shoulder in furthering this undertaking for the improvement and far-reaching interests of our art. Exaggerated aspersions on the present want of method in the teaching of architects will only tend to alienate the more conservative among us, and unless the profession generally is united in a disinterested determination to work with a will in this affair the success which we hope for will not be realised.

It would be a mistake to only establish a Metropolitan Bureau of Architectural Education, and the policy adopted therefore should be on broad and comprehensive lines. In common with all cosmopolitan undertakings the working administration must possess a centre of organisation located in London. Without representative association no autocracy, however capable, can hope to compass the far-reaching necessities of this measure of professional education, which in that sense must embrace a national scheme. Members of our profession in our big towns understand as keenly as anyone the need of this democratic aspect of the affair, and Londoners will only be too glad to avail themselves of the valuable assistance of their provincial *confrères*. There must, of course, be an unhesitating recognition of the central authority, but to obtain this hearty union of forces architects outside the London district must be accorded a proportionate share of the management. The opportunities to be thus afforded will, I believe, accomplish more to raise the status of the profession throughout the country than any scheme of registration by Act of Parliament could possibly do. No one pretends that a panacea for all our needs in this matter will thus be obtained, but assuredly the busy murmur of the working hive of willing students should rouse the profession from its lethargic lullaby, which can no longer be indulged in with comfort even by the prophets of a fanatical belief in laisser-faire, owing to the entire change in the condition of things brought about during the last fifty years. It must be taken for granted that a few well-meaning individuals will prefer a sort of mugwumpian isolation so peculiarly attractive to the outsider, but I am optimistic enough to believe that the needs of this educational development when clearly stated will awaken the enthusiasm of all who have the interest of good building at heart, and especially the younger and more ardent members of the profession. "Youth without enthusiasm means a maturity without faith and an old age without hope."

There is no notion of attempting a genesis of a fresh cult or the invention of a new style, and we are not concerned in the revival of any bygone phase of building art. Enough energy has already been expended on such like sterilised enterprises by progenitors of defunct forms or details. It is a matter of indifference whether we have old architecture or new architecture, lintel or arched construction, but it is of the utmost consequence whether we have architecture worthy of the name. Our endeavour should be concentrated in producing beautiful work, caring but little whether it is new or not. Time alone can insure a true evolution of style which relies on the labour of multitudes, and not so much on the inventive efforts of the few. "The able architect will probably adopt as his own any type of the day which may be going, and, working at that, will impress it with freshness and individuality, taking liberties with his text no doubt, though not in defiance of its rules or for the greed of notoriety, but he will invest it with originality just in the same way as a master of speech will use the vernacular, with freshness and style of expression to convey ideas which words alone, without such infractions, could not adequately describe or graphically indicate." Such a gift comes from the gods, and cannot be given by any School of Arts or Royal Academy, and no examination or training can insure it. I do not presume for one moment that the best studio equipment or the most cultured class system ever invented will produce a single architectural genius, though it is possible that by such means a potential master of architecture might be discovered :—

One of the few, the immortal names,
That were not born to die.

The most that we can hope for in a general sense is to render likely a levelling up towards an improvement in contemporary work more in harmony with the canons of architectural taste by leaving no longer the making of architects as a matter of chance to the happy-go-lucky rule of thumb. With this end it is desirable to co-ordinate and centralise our scheme of training. Let no one suppose, however, that anything approaching a sort of professional forcing house or system of cram is in process of contemplation where artistic capacities will be impaired by abstract theories and technical prolixities. It is to be an "occupation" school conceived and conducted by architects for architects, therefore the artistic and inventive powers of no one are likely to be reduced to the level of mechanical plodders by any inflexible type of regulation teaching in dealing with matters of design. In the more advanced stages of study I presume the advantage of practising architects of repute acting as visitors will still obtain. The croakings of those who seriously warn us do not appear to me to be justified when they anticipate that the aspirations of artistically-minded pupils will be stultified by scientific teaching of this sort. These worthy people seem to fancy that we had better by far leave things as they are, with the assurance that the best will always come to the top. Absence of taste, paucity of ideas and lack of knowledge are not quite identical, but they generally, however, exist together. Some have argued, and argued well, that poverty is no hindrance to genius, and Mr. Carnegie lately said that the greatest inheritance a boy could possess is poverty. Doubtless these conclusions can be supported by special experiences, and it is an old saying that man is the architect of circumstances. None the less, it is obvious that forethought would demand a guide to successfully climb the Alps, and no man would wisely put to sea in a skiff.

To the "individual of infinite resource" adverse circumstances no doubt furnish an incentive to effort, while poverty may develop the acquisitiveness of genius; indeed, it is open to question whether impecuniosity ever hindered the ultimate advance of anyone who is possessed of a real and enduring love of his art. Architecture has, however, been adequately described as the most difficult work a man can put his hand to, and when a student affects an artistic consciousness, it will, nine cases out of ten, prove a great personal gain to him to learn that the pursuit of architecture demands more than a superficial æstheticism to enable him to cope with the task he is taking up. If in the tenth instance such a discovery on the part of the student should prove too much for his artistic precocity, then surely the exception which proves the rule must be a weakling indeed.

Whatever disadvantages the English pupil has experienced as compared with his continental contemporaries, I think we are justified in congratulating ourselves that anyhow he has escaped the stereotyped mannerisms and academic formalism so conspicuous in much of the otherwise accomplished modern architecture abroad, though we are bound to recognise the traditional methods distinguishing the best modern buildings of the French. The over-accentuation of individuality so detrimental to the uniformity of effect in our English towns is chiefly due to the absence of comprehensive schemes compatible with the dignity of architectural treatment. The uncompromising insistence of personal rights by different owners of circumscribed sites precludes anything approaching the grand scale of setting out the façades of our thoroughfares on the lines adopted in France and Germany. The fiasco of the London County Council Strand façade improvement scheme is a case in point. Moreover, the position insured to architects in reference to the Governmental Departments of Public Works abroad has no counterpart in this country. While recognising this difference, we do at least obtain a picturesque personality in our work which, however, is gradually becoming more subservient to recognised methods of design, and it is a gain also that the British student does not waste time in emulating the foreign system of draughtsmanship which starts with the thinnest of lines and finishes with shading and sponging, and sponging and shading, till the utmost finish is obtained and all individuality is gone. Our drawings are too often mean and poor, and our pupilage experiences are frequently a disgrace, but I am convinced that for practical efficiency, as also for the retention of what semblance of artistic tradition remains at all in England, no satisfactory substitute for apprenticeship under really qualified and conscientious masters is at all probable, and therefore we shall do well to supplement and improve this old plan, instead of attempting to supersede it by importing German ideals *en bloc*

The general consensus of opinion as to the experience resulting from the German and other foreign colleges' course of four and more years of class training amounts to this, that when young architects so taught commence to practice they display, as you might naturally expect, a conspicuous want of practical knowledge and fail from lack of an acquaintance with the application of much that they have theoretically acquired, so that the older architects abroad recommend at least a year's apprenticeship after leaving the schools, and for those who cannot thus afford another twelve [months in learning their business and can do without holidays, it is advised that they shall do office work during their vacations. In any event whatever method is adopted the most must depend upon the aptitude of the pupil. A man ought anyhow to be a 'prentice before he can take up the position of a master with advantage, and the best pupil needs the best teaching, for taste and ability may run wild if not curbed and properly cultivated A year's probationary work in such a school as we are intending will afford the student an opportunity prior to his articles for ascertaining whether the calling of an architect is likely to prove congenial to his particular capabilities or not If by this process of elimination some failures could be prevented, so much the better for art and for the individuals themselves. Much of the mediocrity of our everyday designs would be spared us if these reasonable precautions were taken. A smattering acquaintance with many things or a casual fancy for all styles of work will not qualify a man to design good modern buildings any more than an all-round elementary course in several languages would enable him to write well in any one of them.

Whether it is ever probable, even if it were desirable, that the Government will establish a National School of Architecture in this country is another question beyond the range at present of practical politics. Our obligations, however, in the meantime are definite and clear, it being evident that architects must combine in some well-concerted scheme to bring the study of building art and its allied technical crafts into conformity with the higher educational developments of our time, which have made such overwhelming advances during the past few years in France, Germany and America. England is shockingly behindhand in technical training all round, as Sir Norman Lockyer demonstrated in his British Association address last autumn. It would be worse than folly for architects to ignore this aspect of the subject from a professional point of view, which manifestly is of vital consequence for every good reason. The architects of this country must realise their position in this matter and take care to befit themselves in order that they may hold their own with engineers and kindred callings, if architects are to occupy with credit an assured place in current affairs quite as distinctively and well recognised as those held by the legal, medical and other professions. Would we secure the patronage of the public, we are bound to qualify our students in order that they may merit its confidence. Success is rare, and general rules can only be provided for ordinary work, and not for anything requiring invention, and as to how far the individual will compass success must unquestionably in the main depend upon himself, as well as upon his capacity for continuous labour. The older he grows the more fully will he understand that self-reliance is the best help of all. Distinction comes inevitably of personal resource, and no reputation will endure which is not based upon real artistic merit. Friends and influence, of course, are most valuable in securing commissions, but it by no means follows that luck of that kind alone will insure a reputation that will live. No buildings capable of affording lasting pleasure and delight the imaginations of generations are ever likely to be produced by men who are satisfied to remain architects only in name, content to relegate all the difficult problems of their building work to the quantity surveyor, or to the contractor, or the builders' operatives, retaining only to themselves the fancy part of their business, which may be acquired in a casual rough and ready fashion, and leaving the detailing and even much of their so-termed designing to their subordinates and assistants. Of such inefficiency we have had ample experience with all the attendant evils of vicarious practice so familiar as to need no further amplification. Ruskin somewhere says :—"It is foolish and insolent to imagine that the art we practise is greater than any other, but it is wise to take care that in our hands it is as noble as we can make it." There can be no nobility in taking credit for work done by others. The architect must think for those whose duty it is to execute his designs, and must convey the intentions of his mind to them in such a way as the weakest capacity can grasp and the feeblest hand can execute. Whatever may have been the position of the architect in the Middle Ages, and whatever his methods then were, he can no longer now depend upon the workmen as if they had been brought up on traditional lines, for the last remnant of the vernacular in architecture went the way of Queen Anne nearly 200 years ago.

The architect can nowadays only calculate on the cooperation of artisans subordinated by labour emancipation, and if satisfactory buildings are to be produced the architect must rely upon himself. Some theoretical reformers decry such a position for the modern architect, to whom they would accord a much less important post, permitting him only to confine his attention to the shell or carcase of a building, leaving its enrichment and elaboration in an architectural sense to trained specialists from arts and crafts schools managed by professors, the notion being, as would appear, that architecture can be produced in a co-operative system of supply, here a little and there a little as if it were an applied art. In advocating this fallacy its authors overlook the risk of incongruity which must ensue, no matter how excellent individually the various moieties of the work might be. The controlment of the architect as the master builder is essential to the unity and harmonious combination of the whole undertaking. Everyone of practical experience, in dealing with the methods of capital and labour, knows perfectly well how impossible any such fantastic scheme of working would prove to be under the existing conditions of protectionist trade-unionism on the one hand, and the troublesome capriciousness, shall I say, of the egotistical handicrafts man on the other. It is to be hoped that no student will be carried away by any such illusive propositions. Every architect worthy of the name would certainly only be too glad to give a capable craftsman as free a hand as possible, and willingly accord him every credit for his valued assistance in the execution of the work. But in no sense can architecture be treated as an applied art, therefore we need not further discuss this subordination of the architect in the way propounded. He of all men engaged in building operations must be responsible for the design and the supervision of its execution. I confess but little sympathy with those clever folks who advise students to become skilled artificers in some one or more of the decorative crafts, telling them that by becoming ornamentalists in plasterwork or adepts in smithery they will become better master builders. On the other hand, every man up to a certain point can but be the gainer by some practical experience in carpentry and joinery. I speak from more than theory, having been myself an apprentice to a builder at the bench. It is impossible, however, for any individual to become manually efficient in all the branches of the building trade, and in my judgment a young architect's time and energies would be better occupied in acquiring a general knowledge such as the scheme now promulgated will render possible. The usual methods of practice are quite onerous and complicated enough without inventing eccentricities of working for the sake of a passing craze.

We are thus brought face to face with the initial conditions, which allow but little choice in this matter. Consequently, in the making of architects, one of the essentials peculiar to the calling must consist in a thorough initiation of the student in business management based upon an intimate acquaintance with the technical details of contracts and their legal consequences, as well as Building Acts and by-laws. It is no longer sufficient to relegate such matters to building surveyors, as if such questions were of no concern to the architect. He is the responsible person who has to decide between the parties. If he is to advise his clients and guard their interests it will not do to seek shelter behind the flimsy assertion that he is an artist first and can only be expected to deal with business affairs as an after consideration. Architects in large practice possibly can afford, and must, to a certain extent, leave such things to subordinates; but when considering the question as to the grounding of students in the architect's business, we need to remember that they will have to commence at the foot of the ladder, and, necessarily, it will be a long time in all probability before they can act independently as masters of the situation in so complete a way as those who enjoy the privileges of being at the top of the tree. When the public realises that all the business associated with the work of an architect in respect to his buildings is personally his own, the world will cease to cavil at our profession so frequently, and those architects who base their reputation on the determination of making their designs and details absolutely their own handiwork do more to elevate the calling of the architect, and more to insure good building, than is otherwise conceivable.

As architects we have more and more to attend to a considerable amount of purely business routine, and are expected to deal with highly technical problems not infrequently. We cannot afford to limit our vision from one point only, but have to look at our work all round. Builders are becoming gradually less and less trained operatives themselves, and they are largely assuming the position of financiers, conducting their business with a staff of departmental managers, who in any event are expected to show a profit in all trades. Do not misunderstand me. I know there are builders who are builders properly so called, with whom it is a pleasure to work, and all honour to them. But in many cases an architect can no longer rely upon the impartial advice of an experienced tradesman, and young architects have to confront facts as presented by the ordinary rough and tumble of the contract system, whereby, instead of the united efforts of all concerned being directed towards the best available result with the materials and funds provided, the opposing nature of the relative interests of the two contracting parties are now more than ever recognised and treated in an understood way as conflicting. From the commencement to termination of a job this influence is more or less evident, and naturally such a state of affairs entails much thought and no little anxiety on the part of the architect, even if nothing more serious actually happens, a condition of things very probably insured by the fact that forethought has prepared for contingencies.

Considerations of this nature may be abstersive, and likely to be accounted tiresome in this place, but high art or no art, they do form part of an architect's business. Practical knowledge of this sort cannot be acquired in school classes, for office routine alone can really teach it. It is one thing to be taught carpentry or joinery in a polytechnic, where stuff is supplied without stint to practise upon, and quite another thing to go to work at the bench in a builder's workshop, as I did before I was articled. You are not long in understanding there, I may tell you, that material has to be handled and utilised in a business-like way. By following up this aspect of the matter so that materials shall be employed with a commonsense regard to workmanship, and thus reasonably adapting them as a means to a definite end, we shall invest our designs with truth of treatment and so go far to gain possibilities of distinction. Unless our multifold materials are employed expressively in an enlightened spirit by the workman there can be no sense of fitness and beauty in our buildings. The responsibility of providing for this expression rests now with the architect, consequently it is of the utmost importance that our students shall be trained in the theoretical and artistic, as well as practical, use of materials, not forgetting, of course, their structural nature and value, particulars about which every learner of building work ought to know. It has been suggested that by a befitting application of new materials a new style of architecture at no far distant date might result deserving to be associated with the twentieth century, but assuredly this cannot be expected because it is clear that materials can never alone produce either style or design. Brains are required to bring that about. Bricks and stone remain bricks and stone, iron and terra-cotta remain iron and terra-cotta until the architect can make them something else, till he imparts into their use a spirit of thought and vitality which constitutes all the difference in the world between the four square elements of a common piece of building and a living creation of art.

We are told that artistic fruition exists beyond the scope of a drawn design, which at most is a mere paper pattern suitable for transmission through the penny post, and further, that the realisation of a building depends upon the millions of handstrokes of the artificer's work which consummates and brings the creation into shape. This sarcasm, so tersely expressed, might be partially true if we chanced to be employed in constructing Egyptian pyramids, but unless we wish to emulate the chaos generally associated with the prehistoric building of the Tower of Babel, we shall scarcely be induced to rely in these days solely upon the handstrokes of the British working man. Whatever theories we may indulge in as flights of fancy during holiday hours, for real work the student must take care that his own handstrokes shall be unmistakably based upon practical knowledge, particularly in making his working details, insuring their accuracy and workmanlike thoroughness, in which every part of his proposed building is clearly worked out after the design as a whole has been drawn and thought over to a smaller scale. Such diagrams may be quite unattractive as drawings, and perhaps fragmentary looking; in some cases they will be left unfinished in pencil or chalk, and generally it will suffice to leave them uncoloured and not inked in.

The leading consideration above all things is the design itself, and to insure its proper execution everything from the outset depends upon showing what is intended with a well-defined precision, leaving nothing vague or undetermined, so that these details shall furnish unmistakable guides to the quantity surveyor, the prime-cost clerk, the foreman in setting out, the clerk of works, and all the trades engaged in the handstrokes of its execution. When the job is done these drawings form the basis of the settlement of accounts, and at times have to be used as evidence in arbitrations. This calculating consideration concerning contracting jobs is contrary to our artistic proclivities, and if none of us would by choice select such commonplaces, there are architects who by bitter experience have found out to their cost the importance of giving these things more study. Whatever may have been the practice before vernacular modes of building died out, there is only one way now of insuring good building and artistic work, whether it is carried out under a schedule or contract, and that is by making working drawings such as I have described. The collection of office drawings now on the walls of this room are the best illustration which can be given of what I am advocating, and if this exhibition brings home the lesson thus insisted on the object of our meeting will have been secured. I am not sure that some apology on my part is not due to my brother architects for recapitulating so many elementary and self-evident observations on matters which are familiar enough and ordinary, though in the making of architects I fancy it must be admitted they do not always receive the attention they deserve. The cynic has said that there are now no masters in our Israel, but whether this reflection is strictly accurate or not, these drawings, so kindly lent by some of the most accomplished architects of the day, demonstrate what studentship has done in their case towards a thoroughness of detail in producing buildings unrestrained by mere precedent or the concomitant mannerisms of past styles. We recognise in their work much to delight us, and the advantage of their example cannot fail to inspire us. It would be invidious to allude to any individual drawing or describe any work in particular, but I will venture this statement, that five-and-twenty or thirty years ago it would have been difficult to bring such a thoroughly good and representative assemblage together as that which is gathered here to-day. My difficulty has been not so much in obtaining such drawings, as in deciding when to stop in inviting contributions for the exhibition, which had to be governed by the restriction of space.

(*To be concluded.*)

TECHNICAL EDUCATION.

ON Monday there was a distribution of prizes to students of the City and Guilds of London Institute and Technical College at the Mansion House. An address was delivered by Sir William White, who said that as regards art, he had been described as one of the greatest offenders against the artistic and beautiful. The naval architect in the absence of the old sails produced that structure which would have in it such elements of beauty as grew out of fitness for the service designed. The future work of the Institute depended on the continuance of the efforts which had brought it to its present condition, and there was no evidence of flagging. As regards the higher technical education, we were as a nation in a critical condition. The country had awakened to the fact, and as often happened, was showing a disposition towards panic. And what was peculiarly English, there was a marked tendency to undue depreciation of what we possessed and what had been done. It was absolutely necessary, in view of the circumstances of foreign competition and the advancement of technical education in foreign countries and the application of trained intelligence in those countries to the conduct of manufactures, that we should make a new departure, and we were quite ready to do it. Let the situation be deliberately faced, not evaded; but do not let us rush into servile copying of foreign methods, however good they may be. Let us not be ashamed of learning in any school where useful facts were to be learned or experienced gained, but basing ourselves on what we had, endeavour as a nation to secure a system which should be complete from base to summit, which should be duly graduated and made as a whole effective and efficient. What was wanted was co-ordination of educational agencies on a carefully considered plan. There must be conference between teachers and the representatives of the professions, businesses and manufactures if the best results were to be obtained. He was extremely hopeful of the results which would follow the work of an advisory committee at the Institution of Civil Engineers containing representatives of all the great engineering associations in this country, whose duty it would be to report as to the best mode of training British engineers in the future. We had at present no proper system of secondary education preparing students for entering technical institutes. In this respect the Germans had certainly stolen a march upon us. We should cease arguing for ever whether the classical side or the modern side of education was the best. The simple solution was that they should go on side by side. There should be a more generous recognition by employers of the necessity and value of the services of trained men. It was a sad thing to know that some of the researches originally made in this country had been first turned to practical account abroad. He knew one case where British manufacturers were to this day paying large royalties in connection with a process of steel manufacture which was actually initiated in England. From his experience at the Admiralty of British manufactures, he had no fear for the future. He had every confidence in the capacity of this country to hold its own. He had the most hearty contempt for the man who thought he was doing a great thing in showing the seamy side of our affairs to the world, as if there was not a white side. He said without the least hesitation that we in this country need not be afraid, and that the advertisement of our inferior condition which was given in sensational articles which pointed to our decay in power of manufacture or invention ought not to be indulged in. There was no shame in facing the need of improvement, but to assume that this great country, which had done so much for progress in all forms of manufacture, had ceased, and necessarily ceased, to occupy, if not the leading position in everything, still a leading position, he considered to be suicidal. He looked forward to a system of technical education in London and throughout the country which would show the world that England was still the leader in industry and in resource.

ROMAN STATION AT BAR HILL.

A PAPER was read by Mr. George Macdonald before the members of the archæological section of the Royal Philosophical Society of Glasgow on the excavations recently carried out by Mr. Whitelaw, of Gartshore, at the Roman station on the Bar Hill. After indicating the obvious strategic importance of the position to any body of troops holding the line of the Forth and Clyde isthmus, he referred briefly to the appearance presented by the fort when it was visited and described by "Sandy" Gordon nearly two centuries ago. Gordon spoke of the vestiges of old buildings as being greater here than in any other Roman camp he had seen in Scotland. Before Roy's time these vestiges had largely disappeared, and for many years practically nothing at all was visible above the surface. Until Mr. Whitelaw took the matter in hand our knowledge of the station was limited to the little that could be gleaned from Roy's meagre and, as it proved, not perfectly accurate plan. Just fourteen months ago digging operations were commenced, under the direction of Mr. Alexander Park, with Mr. J. M'Intosh as master of works. The explorers began by opening up the centre of the camp, and on the very first day they were rewarded by striking the well which had supplied the garrison with water. The diameter of this at the mouth was 4 feet. But it proved to be 43 feet in depth, and was carefully built round from top to bottom with dressed stones. Its main interest, however, lay in the fact that at some time or other, possibly when the camp was abandoned, it had been made the receptacle for articles which were too substantial to be speedily destroyed, and too heavy to be easily carried off.

It thus yielded a harvest of finds which was extraordinarily rich, and which would alone have sufficed to give the excavations a unique place among recorded explorations of Roman sites in Scotland. To clear it thoroughly was a work of difficulty, even of danger. But it was done, and thereafter the general plan of the station and its defences was laid bare. As a rule, the forts on this line abut directly on the Antonine Vallum, which serves as their northern rampart. The station on the Bar Hill is an exception. It lies some 30 or 40 yards to the south, while the Military Way runs in front of it. In shape it is almost a perfect square, the dimensions being 399 feet by 393 feet. It is defended by a single rampart, built of sods resting on a stone base, like the great vallum itself, and showing no traces of the massive masonry found at Castlecary. It has the normal four gates. Outside of the rampart is the usual line of ditches, double on every side, save the north. The prætorium had been a substantial structure of stone, how substantial was strikingly shown by the contents of the well. Among other stone buildings whose remains were revealed were the latrines, which lay (as at Castlecary) close to the north rampart, and a group which had been provided with a heating system and which would appear to have been baths. Rows of post-holes probably indicated the soldiers' quarters, and a remarkable feature was that here, as at the gateways, the remains of the wooden posts were in many cases found *in situ*. So far no trace has emerged of the annexe or civil settlement which lay, we may be sure, quite close to the main station. But for this loss there has been ample compensation. Beneath and within the camp of Lollius Urbicus, which dates from the second century, A.D., there has come to light the outline of an earlier camp, which measures 191 feet by 160 feet, and is thus considerably smaller than its successor. It is rectangular in shape, with a small annexe towards the west, and it appears to have had only a single gate, which opened towards the east. This exceedingly interesting discovery was due to the insight of Mr. Haverfield, who has throughout been in close touch with the excavators.

The obvious suggestion is that here at last we are face to face with the long-sought handiwork of Agricola, who, according to Tacitus, built a line of forts between the Forth and Clyde in 81 A.D. If this be so, it is a striking testimony to the sound military judgment of Roy, who drew from the detached position of the Bar Hill fort the inference that it was probably one of those previously erected by Agricola. The collection of objects recovered in the course of the excavations is as remarkable for its variety as for its extent. The majority of these came from the well, but refuse-pits and ditches also contributed their quota. A large portion of the woodwork of the well itself has survived, notably parts of the pulley and the bucket. These are partially charred, showing that the place had been fired. There are many iron implements, masons' chisels and the like, including a complete bag of workmen's tools held together in its original shape by corrosion. Personal ornaments are almost wanting, and weapons are represented chiefly by a few arrow-heads of iron. Very striking are the pillars, no fewer than 60 linear feet of which were extracted from the well. In one case at least a capital presents features that vividly recall the efforts of early ecclesiastical architecture. Two inscribed stones tell us that at one time the fort was garrisoned by the First Cohort of the Bætasii, auxiliaries from Lower Germany, who must have been moved up from Maryport, in Cumberland, where we know from lapidary evidence that they were stationed. Hitherto the only regiment we have been able to associate with Bar Hill has been the First Cohort of the Hamii, Syrian bowmen, mentioned on the altar found in 1895, and now in the Hunterian Museum. The usual *débris* of a Roman camp, from ballista balls to children's playthings, is present in abundance. Pottery and leather shoes are specially plentiful. The bones have been subjected to a preliminary examination by Dr. T. H. Bryce, who has identified many relics of the shorthorned Celtic ox (Bos longifrons). Miscellaneous articles include a fine copper pot, a bell, the leg of a compass, oyster shells, walnuts and hazel-nuts and four stone busts of singularly rude workmanship. The coins are not numerous, and in date they entirely bear out the view that the vallum was abandoned in the reign of Commodus. They present, however, one very curious feature. When the sludge at the bottom of the well was riddled it was found to contain 13 denarii. At first sight these resembled genuine pieces. But on closer examination it proved that all but one of them were of pure tin. These can hardly have been forgeries in the ordinary sense of the term. It seems more probable that they were shams expressly manufactured for devotional purposes, the custom of throwing money into wells from superstitious motives being in ancient times a very ordinary practice. It has always been supposed that coins thus dedicated to the gods were genuine. But Bar Hill has supplied us with what looks like a parallel to the "ghost-money" of the Chinese. In conclusion, Mr. Macdonald said he hoped he had succeeded in conveying some idea of the importance of the service which Mr. Whitelaw had rendered to the early history of the district and of Scotland by the excavations which had been carried to so noteworthy an issue. On the motion of Mr. George Neilson, LL.D., seconded by Mr. David Murray, LL.D., Mr. Macdonald was awarded a vote of thanks for his paper.

The Benediction of the central tower and spire of Truro Cathedral by the Earl of Mount Edgcumbe, attending as special representative of the King, took place on the 22nd inst. The tower and spire, which cost nearly 15,000*l*., were given by Mr. J. Hawke Dennis, of Grenehurst Park, Capel, Surrey, formerly of Redruth, Cornwall, in thankful remembrance of the blessings of the reign of Her late Majesty, after whom the tower was named.

ARCHITECTS' FEES.

AN address was lately delivered before the Brooklyn Chapter of the American Institute of Architects by Mr. Arnold Dehli, in which he referred to the percentage system of charges and competitions. Historically, percentage rules, and more particularly the 5 per cent. rule, he said, undoubtedly came into being as a fair average for the public buildings of France. Previous to the end of the eighteenth century practically all architects were paid salaries or grants. It is becoming more and more evident that a number of architects are beginning to harbour grave doubts as to the merits of the 5 per cent. rule of compensation and similar percentage rules. The difficulties of amending so as to meet the ever-increasing complexity of conditions of architect's employment are steadily increasing, and the difficulties of each individual architect in persuading his clients to recognise these amendments are greater still, and in a great majority of cases probably insurmountable. With the labour unions the unit of compensation is a day's work—alike for all members of the union. With the architects of the American Institute of Architects, the unit is the dollar expended in carrying out the design, being the "minimum charge" in both cases There are necessarily points of difference, but it is hard to see any great difference in the principle. It is hard at a glance to measure the viciousness of the basic principle of the present schedule, so ramified are its injurious effects. Draughtsmanship is only a part of an architect's work, and as history has shown in several important instances, not an indispensable one at that. There have been many architects of the very highest order who have been indifferent draughtsmen. Legions of the most accomplished draughtsmen whose work in execution proved as bad as their draughtsmanship was good. We all know plenty of instances of this kind. This neglect of the distinction between draughtsmanship and architecture is alone enough to condemn competitions as they now exist, without mentioning the host of iniquities to which they open the door. Whatever may be thought of the above reasoning, Mr Dehli said there can be little doubt that percentage rules and competitions make for the same goal; tend to lower and discredit the architect's work, to make it harder and more difficult than it should be.

TITIAN AND VELASQUEZ.

THE fourth of Mr. Clausen's lectures to Royal Academy students was commenced by saying he could only make rough comparison of main qualities or differences in the three greatest masters of painting the world had ever seen. Touching on Italian schools, he said that for him there were only two—Michel Angelo, that great lone spirit, was one; and the other was "all the rest of Italy." Titian stood at the junction of old and new; his work was of minuteness and freedom; everything was in place, nothing was obtrusive. When Velasquez visited Rome and was asked his opinion of dead Raphael, whom all men worshipped, he answered: "Raphael does not interest me at all; it is Titian." There was no concentration of interest in Titian's pictures; it was spread over all, and was won by his own observation of light and shade and a setting that gave sentiment which united the whole. "The Entombment" was again requisitioned for the screen to give point to this remark. Titian's colour seemed deep and rich beyond the power of any palette to yield, but he really used few and simple tints, although there were no paintings so full of fine colour and inner light. The emotional side of Titian's work was due to colour, scarcely at all to form or expression, although his figures had natural grace and dignity of their own. He had not the passionate soul of Rembrandt, which, when once recognised, brings him closer than anyone to the heart. Titian as a portraitist was not a searching reader like Rembrandt, but Reynolds gave Titian first place as a portrait-painter. To show how broad, simple, and delicate it was, with apparently everything left out and yet everything included, "The Man with the Glove," at the Louvre, was placed on the sheet, and attention directed also to the refined modelling of the hand, which in the painting was lower in tone than the linen. Probably Titian's painting-room was small, with veiled light, for most of his portraits conveyed an impression of being executed by artificial light, as similar reflection from light parts and absorption of light in the dark parts might be noted in a figure illuminated by a single candle. He had influenced both Velasquez and Rembrandt, especially Velasquez, though he passed through it and came out alone.

Mr. Clausen showed that Velasquez's freedom was the outcome of labour; that his early work was in no sense clever, but was uncompromising, ordinary, heavy-handed, showing only clear insight, with everything set down plainly, relentlessly and thoroughly. Nothing was got by accident, all was deliberate. His early training on still life was the best possible for learning drawing, modelling, colour and arrangement. Later, Titian, Rubens, Tintoretto and the Venetians generally touched him, as "The Surrender of Breda" showed in its colour. At the beginning Velasquez was black and greyish in colouring; it was fuller at his more Venetian period, and at the end his own silvery idea of colour found way. He was an entirely dispassionate observer, completely detaching himself from his sitter. The "Admiral" was given as an example of how completely the man takes hold of the spectator until close approach to the painting gives pause by amazement at its author's skill. The "Philip IV." of Velasquez's latest and finest manner was quoted for its apparent ease yet total absence of display of skill or effect of effort—every touch in place.

Then Mr. Clausen came to the consideration of Rembrandt, who, he said, had a greater range of light than Titian, as "The Syndics" showed, and in some ways he was greater as a portraitist than either Titian or Velasquez, but less so if it was considered that detachment of self was absolutely necessary, for there was something of himself in Rembrandt's portraiture and pictures. There was human sympathy that made his scenes strong realities. To understand Rembrandt, his drawings and etchings must be studied. He was the greatest etcher that ever lived, not only for his line, but for his extraordinary completion and delicacy; the technical execution of Rembrandt's etching had never been approached. To prove what diversity of facial expression Rembrandt gave, with three or four lines, an enlargement of a pen-drawing (8 inches by 7 inches), "Christ before Caiaphas," was thrown on the screen, and to illustrate his extreme care for modelling every fold and wrinkle, drawing the eyelashes, &c., an enlargement of the etching of "Rembrandt's Mother," in which the head is but postage-stamp size, was used. In painting, the study of shadow and suffusion of light was only the means of expression, and the loveliest of the National Gallery pictures, "The Adoration of the Shepherds," was shown to demonstrate how completely Rembrandt carries a spectator into his scenes. Rembrandt's works told of unflagging industry and progress towards perfection, though he died practically forgotten and out of touch with his fellows. He came to his own again, however, as often happens to those charged with being innovators and unorthodox. Finally, Mr. Clausen quoted Millet, who said that decadence would set in when people began to believe that art was a supreme end, without remembering that an artist had his eye fixed on infinity.

LANDSCAPE PAINTING.

IT was said by Mr. Clausen in his address on Monday to Royal Academy students that last century's main development was in landscape and, allied to it, the painting of figure in open air. Landscape had begun with the early Italians, than whose skies none had been better in light, and whose distant views of country were of finest and purest feeling. Salvoldo's "Magdalen" was an exquisite night-piece, probably the first *nocturne*, and he quoted likewise pictures by Antonello da Messina, Bellini and others, passing on to the invention of Titian in using cloud shadow in construction of his landscapes. Titian's influence passed on to Claude and to Poussin, with whom pure landscape really began. Allusion to a "quite beautiful" sunset by Rubens was made, and then the lasting influence of Rembrandt, which was the leading one in Dutch landscapes of to-day. Constable was the inspirer of the French landscapists of the Romantic School, and later Turner was directly traceable in French landscape. Then Mr. Clausen said that landscape must be true to nature, but not an inventory of facts; it must be under some effect of light and mood or it would not have charm. All great masters had recorded mood. A landscapist's range of vision must be more instinctive, wider than a figure painter's, but the building of a picture by either was much the same as regarded balance of light and shade, warm and cool colour, so as to appeal to the eyes. Claude cared nothing for the Queen of Sheba when he painted her "Embarkation" He wanted to express the beauty of evening sun in a clear sky, and he did so, as might be seen now—200 years after. None but Turner had ever equalled Claude in sunlight without forcing colour, for his brightest light was not white or his darkest black. Wilson was direct and full in painting, but limited in range. Turner had no limits. "The Shipwreck," "Sun in a Mist," and "The Approach to Venice" were used on the screen to verify this, and that minutest detail did not cause loss of breadth, and that there was infinite air in the Venice, with utmost delicacy of gradation in the sky. Constable touched smaller and more homely scenery, painting with freedom from convention, and "The Valley Farm," thrown on the screen, showed his power in painting trees, which, next to a sky, were the most difficult of all things to paint well. When a tree was looked at with a view to copying its branches and foliage, it lost the charm of the great green dome which first attracted us on seeing it casually. It was difficult to obtain completeness between the two extremes of mass and detail; but Constable saw his trees as a whole, and so did Rousseau, Cecil Lawson, Corot and Daubigny. Corot was delightful in lightness of touch and delicate sentiment, in his love of dawn and of airy willows looking light as mist against his lovely skies, yet with a generalisation that was his own. Rousseau (the greatest French landscapist of our time) and Lawson were sterner, and their preferences were for oaks and elms. Rousseau was associated in some minds with Millet and the Barbizon school, but he would only touch on some points of a few painters of that school. Millet approached nature with perfect simplicity of mind, caring for the subject with the singleness of old painters. He was not the first to select rustic subjects, as the elder Breughel had done so; but Breughel's work was little known, and Millet practically struck a new note by seeing the beauty of peasant life, its dependence on and consequent unity with nature. He was greater as an inventor than as a painter. His sympathy was constant and exacting. There was no incident in peasant life which he did not use, and always with deep expression of sentiment. If Bastien Lepage was brought into comparison with Millet, Millet was found to be the master, though Lepage was more able and skilful as a painter. His dominant note was more beautiful than any other, his light clear and defined; his drawing and mastery of execution were remarkable, but he lost something of vitality that Millet had. Millet's figures were a type, and the quality of action was invariably preserved, although the pictures might be rough in composition. Lepage presented a person and the surroundings, and did not rank with the pioneer Millet, though, as Mr. Clausen said, after showing by lantern Millet's "Mid-day Rest" and Lepage's "Haymakers," it "was but comparing great things with greater, and what remains in our minds is the essential thing."

SOCIETY OF BRITISH SCULPTORS.

IT has been felt that there is urgent need for the formation of a society whose particular province should be to advance and protect the art of sculpture and the interest of sculptors in this country. In December last a meeting was called which was attended by upwards of forty London sculptors, the object being to ascertain the feeling of a large number of the profession on the subject and to discuss the preliminaries for the formation of a Society of British Sculptors. Mr. George Frampton, R.A., presided, and the meeting was unanimously in favour of the proposal, and appointed a provisional committee, consisting of the chairman and Messrs. T. Stirling Lee, W. S. Frith, W. Reynolds-Stephens, D. McGill, F Derwent Wood and F. Lynn Jenkins to confer together and to prepare a scheme. A general meeting took place at the Royal Institute of Painters in Water-Colours, Piccadilly, W., on Monday evening, January 11. Mr. Thomas Brock, R A, Sir Charles Lawes-Wittewronge, Mr George Simonds, Mr. George Frampton, R.A., Mr. Goscombe John, A.R.A., Mr. F. W. Pomeroy, Mr. Alfred Drury, A R.A., Mr. Henry Pegram, Mr. John Tweed, Mr. Bertram Mackennal, Mr A. G. Walker, Mr. Montford, Mr. F. Bowcher, the members of the provisional committee and others were present. Mr. Thomas Brock having been voted to the chair, said that it had been his wish for many years that the art of sculpture should have some representative society, and went on to explain how such a society could be constituted. He insisted that sculptors should combine without clique for the sole object of the advancement of their art, which had hitherto suffered by being inadequately presented, and that the Society should be in no sense regarded as antagonistic to any existing institution. The meeting unanimously voted its confidence in the committee and Mr. Brock forming the nucleus of the Society of British Sculptors. Sir Charles Lawes-Wittewronge was nominated as honorary treasurer and Mr. F. Lynn Jenkins as honorary secretary. The Chairman pointed out that it would be necessary to have an endowment fund, and invited donations from the artists and those interested in the advancement of the art of sculpture. The meeting concluded with a vote of thanks to the chairman, and those present signed their names as signifying their willingness to become members of the Society.

GLASGOW ARCHÆOLOGICAL SOCIETY.

THE members of the Glasgow Archæological Society visited Gartshore, near Kirkintilloch, on the 23rd inst to inspect the "finds" got from the Roman camp at Barhill, which formed the subject of a lecture by Mr George Macdonald, M.A., reported on page 85. The articles were laid out in the coach-house, which they quite filled, Mr. Macdonald stating that this was the largest "find" of any in Scotland of the particular period—the larger camp dating from the second century, and the smaller one from the first century. Perhaps the most interesting exhibit was the altar, all but intact, the inscription upon which indicated that it had been dedicated to Antoninus Pius by the First Cohort of the Bætasii, auxiliaries drawn from Lower Germany. There was an extraordinarily large collection of boots, these having been recovered from a rubbish hole, corresponding to the Scottish "midden," and in themselves they occupied almost an entire table. A huge amphora, calculated to hold about 15 gallons, was another object of special interest. There were quite a number of skeleton-heads of animals, including the shorthorn Celtic ox, now extinct. Stonecutters' implements were in good state of preservation, as were also a number of arrow-heads, several with cavities for carrying lighted material, such as tow. There were a number of pillars in a perfect condition, two being quite 5 feet in height, while there were a variety of capitals placed alongside. A bag of tools so corroded with rust that it was impossible to separate them was an object of special interest, as were also the oyster shells, walnuts and hazel nuts. The most of the articles were recovered from the well in the centre of the camp, 43 feet deep. After a depth of 12 feet had been excavated almost everything brought to the surface was of interest. The company were afterwards entertained to tea in the harness-room, and in proposing a vote of thanks to Mr. Whitelaw, of Gartshore, at whose expense the excavations had been carried out, and to Mr. Park, the factor, who supervised the work, Professor Cooper said that was one of the great days in the history of their Society. It had seldom fallen to archæologists to see with their own eyes such evidences of a bygone age. At an age before Scotland was called Scotland, or before the Saxon had appeared in Britain, this camp had not only been twice made, but twice abandoned. From what they had seen, the civilisation of these early Romans was pretty much what it was like still. He was sure the exhibits had been a revelation to all of them, and even those who heard Mr. Macdonald's lecture were not prepared for such an interesting collection.

EDINBURGH ARCHITECTURAL ASSOCIATION.

A MEETING of the Edinburgh Architectural Association was held on the 20th inst. in the Association Rooms, 117 George Street, Glasgow, Mr. A. Hunter Crawford, F.R.I.B.A., the president of the Association, presiding over a good attendance. The Chairman, in reporting upon a recent discussion at the R I.B.A on "The Statutory Registration of Architects," said he was sorry to observe that there was an inclination to take it for granted that they were all in favour of the movement. The best argument put forward in support of the proposal was that if there was a set of examinations it would necessitate everyone passing these examinations before being registered, whereas at present there are only the Institute examinations, which are of a more or less voluntary character. It was agreed that a Council meeting be called for the purpose of considering the proposal. Referring to the question of public officials carrying out important architectural work, the Chairman said the case of the Usher Hall had aroused a good deal of feeling among the members of the Association, and the general question had been brought up at the last Council meeting, when a committee was appointed to inquire into the matter and report. It was a thing they ought to put a stop to if possible The convener of the special committee had sent him a series of questions, and he (the Chairman) would be glad to have the assistance of one or two of the members in drafting replies. After the business had been transacted Mr. W. Crum Watson, architect, gave a lecture entitled, "An Architect's Holiday in Portugal." He commenced by making a brief survey of the history of architecture in Portugal. The earlier buildings in the country, he explained, were either from ideas brought from Galicia, or as was the case at Alcobaça, designed on styles brought by the monks from France. In the early part of the sixteenth century the Portuguese prosperity, resulting chiefly from the Indian conquests, brought about many notable additions to the architecture of the country, and the king added largely to Batalha, Thomar and other places. At Belem, near Lisbon, Portuguese architecture reached the stage of its greatest elaborateness and richness, but after the Spanish Conquest in 1580 very little of any consequence was built. Mr. Watson afterwards described many of the principal buildings in the country, showing that much was borrowed from other countries, including India, and that in originality the tendency was towards somewhat extraordinary combinations. The lecture was illustrated by a large number of lantern slides, which showed the architectural features with great distinctness, and the majority of which had been made from photographs taken by Mr. Watson.

DESTRUCTION OF THE TURIN LIBRARY.

On Tuesday the valuable library of Turin was almost totally destroyed by fire, which, it is believed, arose out of some defect in the electric apparatus. It is said that the danger of fire was apprehended for several years before electricity was introduced in the building.

The library was not to be judged by a modern utilitarian standard. It was mainly composed of the collection of books and manuscripts which had been acquired by the Dukes of Savoy about the middle of the seventeenth century. Besides the printed books there were 70 Hebrew manuscripts, 370 Greek, 1,200 Latin, about 220 Italian and 120 French.

The Palimpsesti of inedited fragments of Cicero's oration for Scaurus and Tullius and against Clodius proceed, like those of the Ambrosian, from the monastery of St. Columban di Bobbio; the text is covered by that of a treatise of St. Augustine, included in the eighth volume of his works, "Collatio cum Maximino Arianorum episcopo." Under the new writing, which appears of the twelfth century, it is easy to distinguish the two columns of the ancient manuscript, regarded by M. Peyron as of the third or fourth century. These manuscripts seem to have suffered less from chemical procedures than the Palimpsesti of the Ambrosian and those of the Institutes of Gaius in the chapter library at Verona.

The Latin manuscript of Sedulius, of the seventh century, and one of the most ancient in the library of Turin, contains his "Paschale Carmen," in hexameter verse.

The celebrated manuscript of the "Imitation of Christ," called the manuscript of Arona, on which a congress of scholars deliberated at Saint Germain-des-Prés in 1687, and which they determined to be no less than three hundred years old, is now supposed by nearly all the first scholars of France, Germany and Italy, only of the end of the fifteenth century; it did not succeed therefore in clearing up this difficult literary question. The thirty-four precious folios of the manuscripts of the clever architect and learned antiquarian Pirro Ligorio, several of which were dedicated to Duke Alfonso of Ferrara, were brought to Paris and are now in the royal archives of Turin, which possess some other interesting manuscripts, such as the "Epitome of Lactantius," the only one in Europe.

The French manuscripts are curious as connected with the history of literature, and they have not been sufficiently consulted. A "History of Troy," translated from Guido delle Colonne, has some singular miniatures; one of them represents a bishop marrying Jupiter and Juno, and in another there is a bishop attended by priests and monks performing the funeral service over Hector. The manuscripts of Seyssel's works, some parts of which are still unpublished, are composed of his translation of Appian in two volumes; a translation of Thucydides, one volume; and his "French Monarchy," one volume. The translation of Appian's History has some very fine miniatures, and one of them represents Seyssel presenting his work to Louis XII. Seyssel was the first who wrote French purely. Though anterior to Amyot, who is much more known, he is by no means inferior to him; he has some of his good qualities and defects too, such as prolixity. Seyssel, who was successively master of requests, ambassador, bishop of Marseilles and archbishop of Turin, had, like Du Bellay, and most public men of that epoch, begun life as a teacher. At the revival of letters the universities, instead of being isolated from society in general, as at a later period, were intimately connected with the political affairs of the day. These universities were not unlike those of Germany now; from them proceeded ministers, counsellors, ambassadors, prelates, and it must be owned that the supply was not very inferior.

The University library also possesses some Chinese books of poetry and medicine, and a very ancient "Game of Taroc"

A "Flora of Piedmont," begun in 1732, and comprising nearly 5,000 coloured drawings, the work of several generations of the Battione family, has been successfully continued by Signora Angelica Battione, afterwards Signora Rossi.

Among the printed books the following may be distinguished:—The "Rationale," by Guillaume Durand, is a very scarce book, the first printed at Lyons, according to the Abbé Gazzera, the learned sub-librarian of this library, with the strange title of "Scelestissimi Sathanæ litigationis contra genus humanum liber"; Ptolemy's "Geography," put into Italian verse by Francesco Berlinghieri, a noble Florentine poet, the pupil of Landino and Marsilio Ficino, one of the first works with maps engraved on metal.

An Appeal has been made by Mr. Watts, Mr. Holman Hunt, Mr. Walter Crane and others to those "who believe in the services of art as the handmaid of religion, practically to recognise the devotion and ability of the artist, who has brought to bear on his work unstinted sacrifice and diligence," in order to raise 3,000*l.* to enable Mr. Frederic Shields to complete his wall-paintings in the Chapel of the Ascension, Bayswater.

GENERAL.

A General Assembly of Academicians and Associates was held on Wednesday, when M. Léon Bonnat, painter, and M. Emmanuel Frémiet, sculptor, were elected Honorary Foreign Academicians. The following Associates were also elected, viz. Mr. Frank Brangwyn, painter; Mr. Charles W. Furse, painter; and Mr. H. Pegram, sculptor.

M. Joseph Israels, the Dutch painter, has been presented by his English admirers with a sum of 20,000 florins, in order to form the nucleus of a fund to assist young artists.

The Late Sir Frederick J. Bramwell, the consulting engineer, has left property of the gross value of 100,798*l.*

The Banquet to the scene-painters will be given on Sunday. The following are the guests:—Messrs. Edmond G. Banks, Harry Brookes, Robert Caney, R. M'Cleery, Hawes Craven, Richard Douglass, Henry Emden, James Glover, Stafford Hall, Walter Hann, William Harford, Joseph Harker, W. Hemsley, Cecil Hicks, Julian Hicks, Walter Johnston, Ernest R. Jones, Harry Potts, Thomas E. Ryan, Bruce Smith, Walter B. Spong and William Telbin. Sir Philip Burne-Jones has acted as hon. secretary to the dinner.

The Council of University College, Reading, have accepted the offer of Mr. A. Palmer of a site for the proposed new college buildings. The extent of the gift is about 5 acres, centrally situated in London Road, Reading, and an arrangement will be possible whereby the London Road frontage will be considerably extended.

The Bishop of Southwark has laid the foundation-stone of St. Andrew's Church, Catford. The church is to be built of red brick and stone in English Decorated style. The plan shows ambulatory and narrow side aisles. It will seat nearly one thousand and will cost about 8,600*l.* The architect is Mr. Philip A. Robson.

The President of the Local Government Board will receive on February 4 a deputation from the Association of Municipal Corporations and Scottish rating authorities on the subjects of the rating of ground values, corporation loans with respect to education, the saving of expense in private Bill legislation, the placing of metropolitan borough councils on the same footing as provincial corporations with regard to the auditing of the accounts by Local Government Board officers, as also the subjects of combined drainage and retrospective rating.

Mr. H. P. Lane seeks the loan of valuable Irish paintings for the Irish Art section at the St. Louis Exhibition. The collection will include, in addition to the best works of Irish painters, Irish miniatures, historical portraits and pictures of Irish beauties. "This last section," says Mr. Lane, "will enable us to show that the women of Erin have often inspired the genius of such men as Gainsborough, Reynolds, Hogarth and Romney to the culminating point of their fame."

M. Amédé Perrière, the architect, died in Paris on the 24th inst. at the age of sixty. He was a pupil of Viollet le Duc, and among his buildings was the church and house of the Assumptionist Fathers in the Rue François I^{er}.

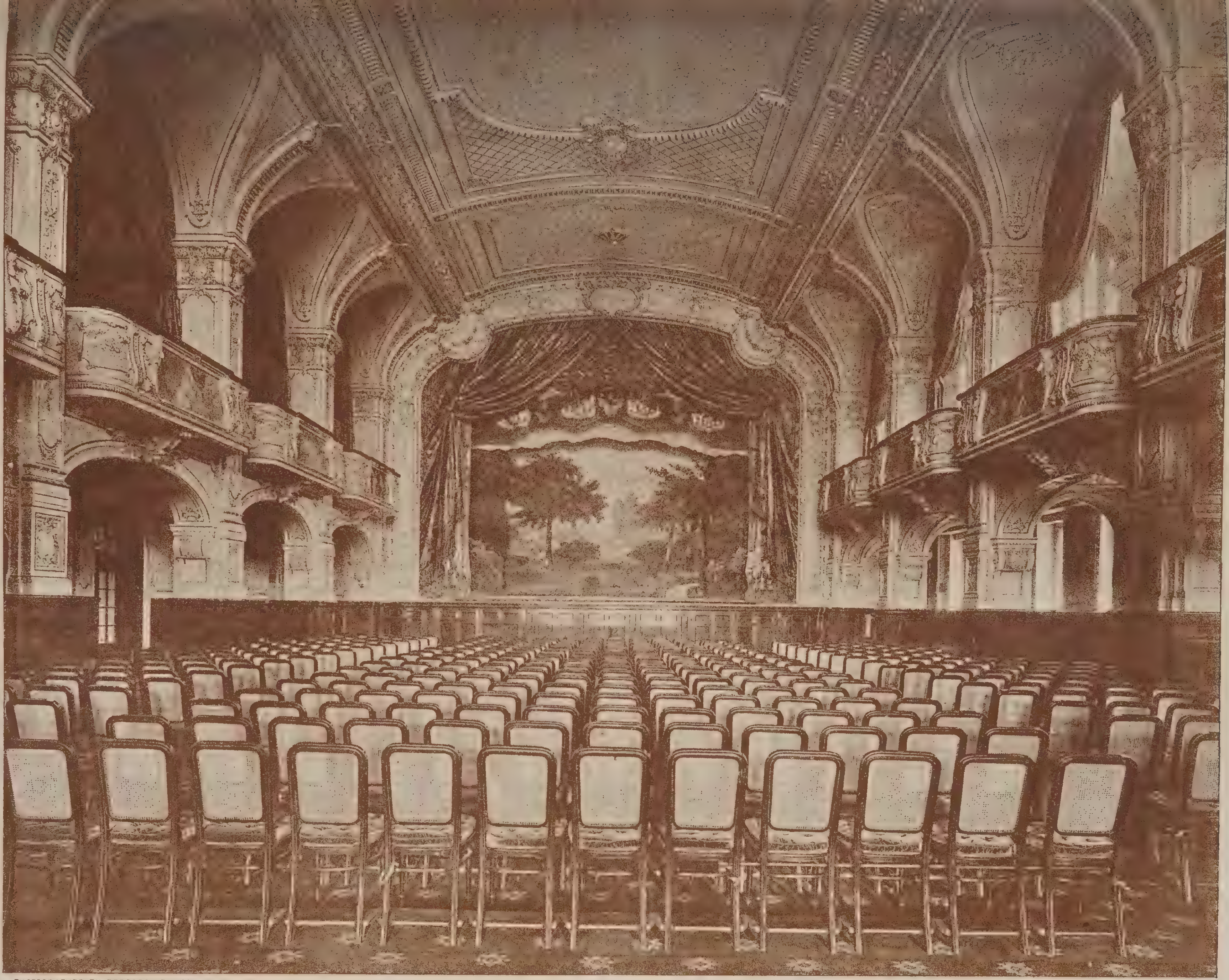
The Dean and Chapter of Peterborough Cathedral appeal for the completion of the work of restoration entered upon in 1883, when the lantern tower was threatened with destruction. The restoration has already cost over 100,000*l.* The sum of 1,500*l.* is needed for repairs to the north and south transepts.

The Mersey Docks and Harbour Board are considering the execution of the following works at an estimated cost of 539,800*l*:—(*a*) The construction of the new Wapping branch docks, Nos. 1 and 2, with the requisite sheds on the quays thereof, except the north quay of branch dock No. 2; (*b*) the construction of a new passage, 100 feet in width, between the Queen's and Wapping Docks; and (*c*) the deepening and widening of the Wapping Dock and the underpinning of the east wall thereof.

A Meeting of the members of the Liverpool Architectural Society was held on the 18th inst., when a paper on "Smoky Chimneys" was read by Mr. Hastwell Grayson, M.A., before a representative gathering. Amongst the chief causes of the smoke trouble the writer instanced that of inadequate and faulty flues and the lack of air space at their base. Mr. Grayson illustrated his remarks by diagrams, and at the conclusion was accorded a hearty vote of thanks.

The New Church of St. Mary Magdalene at Accrington, a substantial stone building which has been erected at a cost of 6,000*l*, was consecrated on the 26th inst. by the Bishop of Manchester.

Mr. Powell Williams, M.P., delivered a lecture in Birmingham on Wednesday, in which he said they could see in Birmingham pillars supposed to be supporting windows that looked as if they had been taken out of a German box of wooden toy bricks, and he supposed they would only be too glad if the bulging part could be removed, and if the persons responsible for their erection had only had the gift of the great architects of the Middle Ages and had been content to make a pillar and not something which looked more like half a pillar and half a cushion.



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MIDLAND HOTEL, MANCHESTER: CONCERT ROOM.

CHARLES TRUBSHAW, F.R.I.B.A., Architect.

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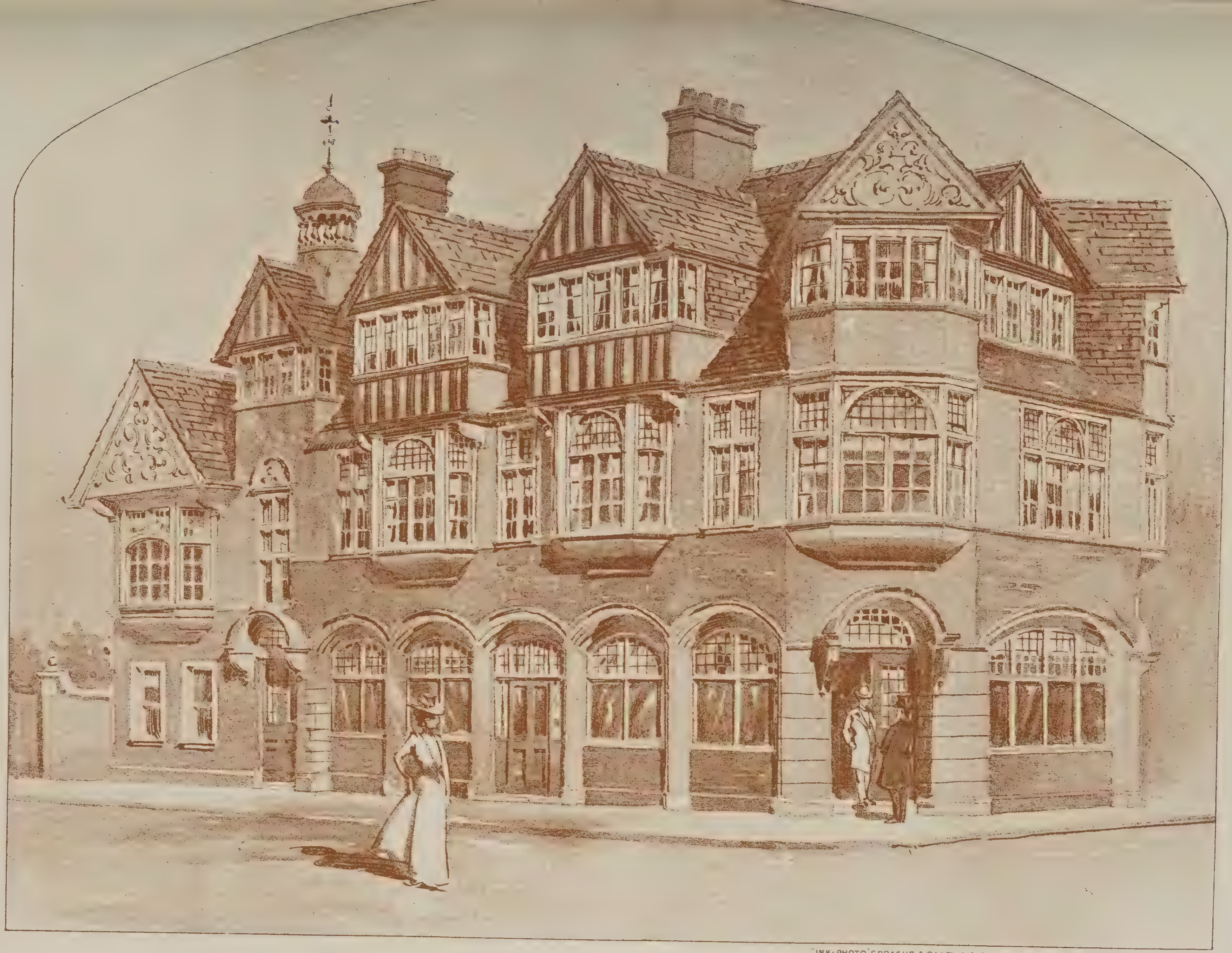

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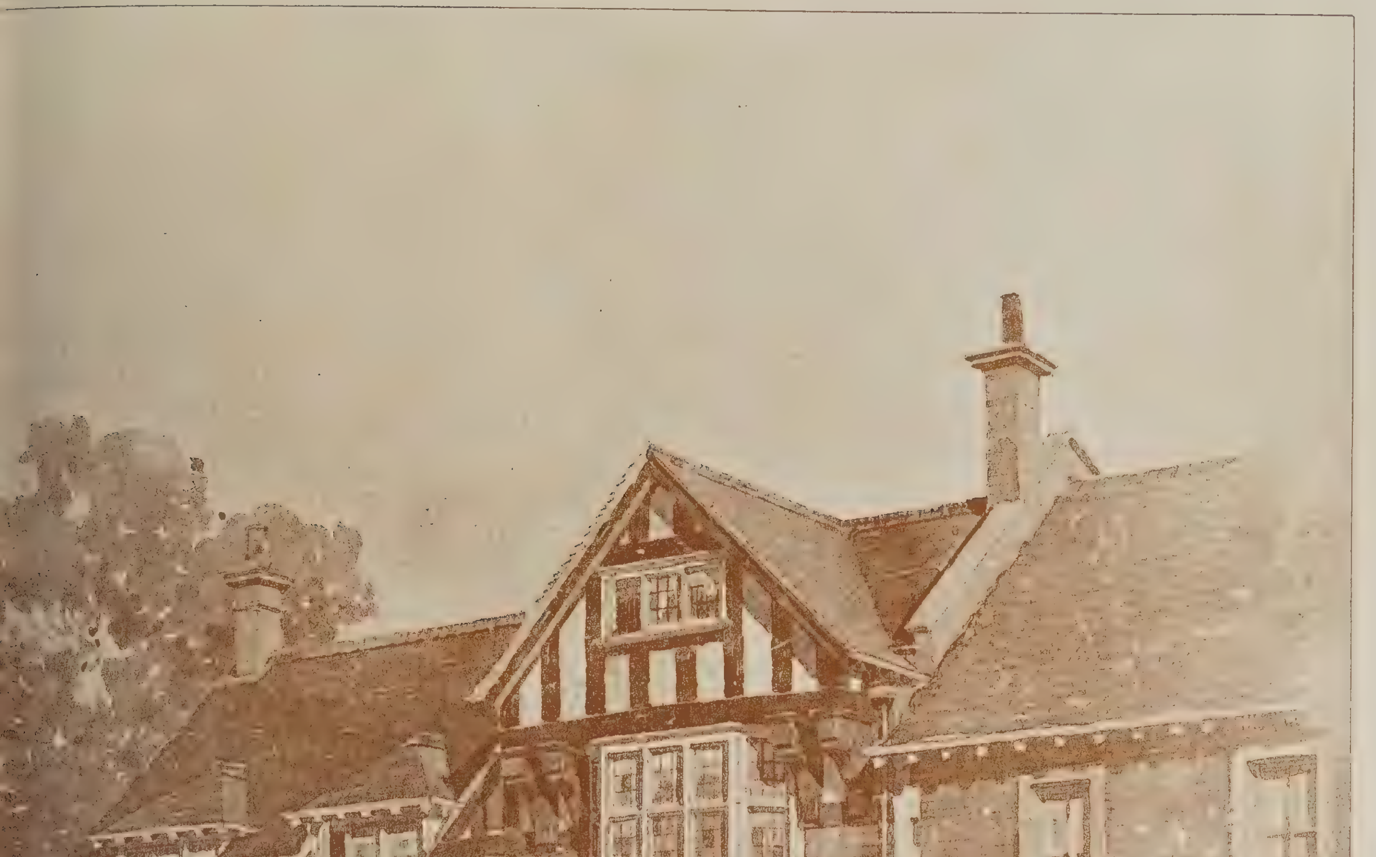
A COUNTRY INN: "THE WHEATSHEAF," REDHILL.

SPENCER W. GRANT, A.R.I.B.A., Architect



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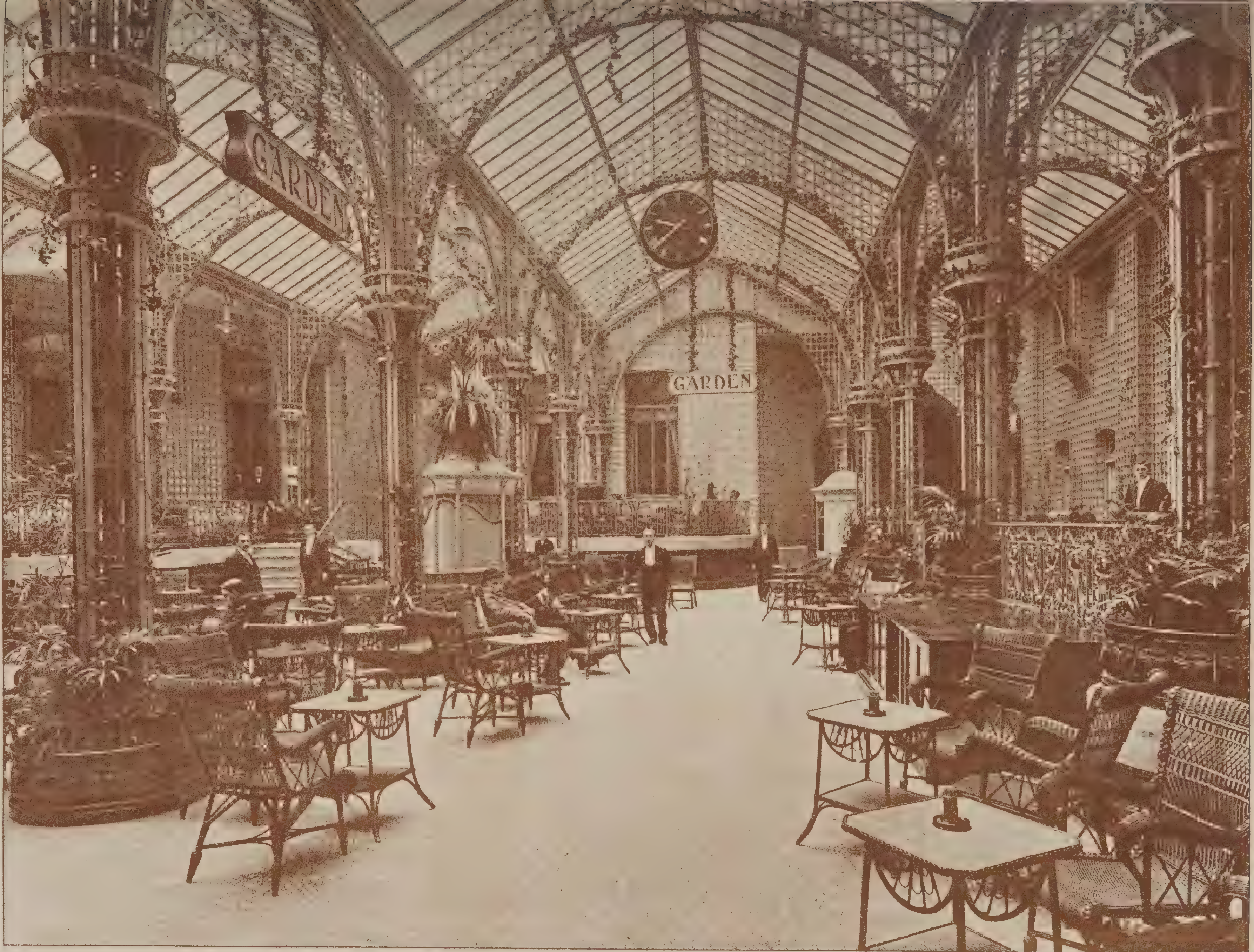
A COUNTRY INN: "THE CRICKETERS," DORKING.

SPENCER W. GRANT, A.R.I.B.A., Architect.



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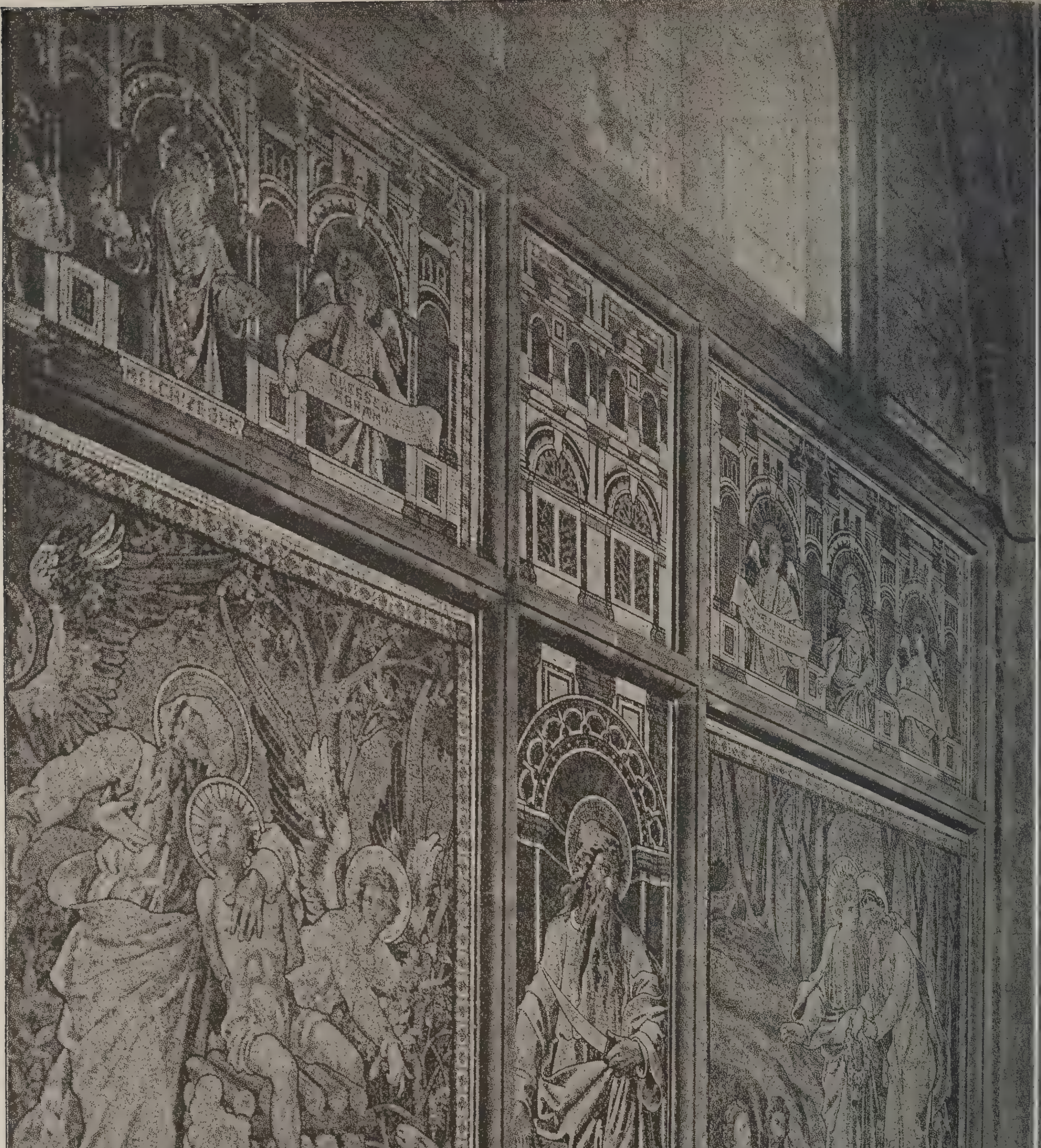
MIDLAND HOTEL, MANCHESTER: WINTER GARDEN.

CHARLES TRUBSHAW, F.R.I.B.A., Architect.



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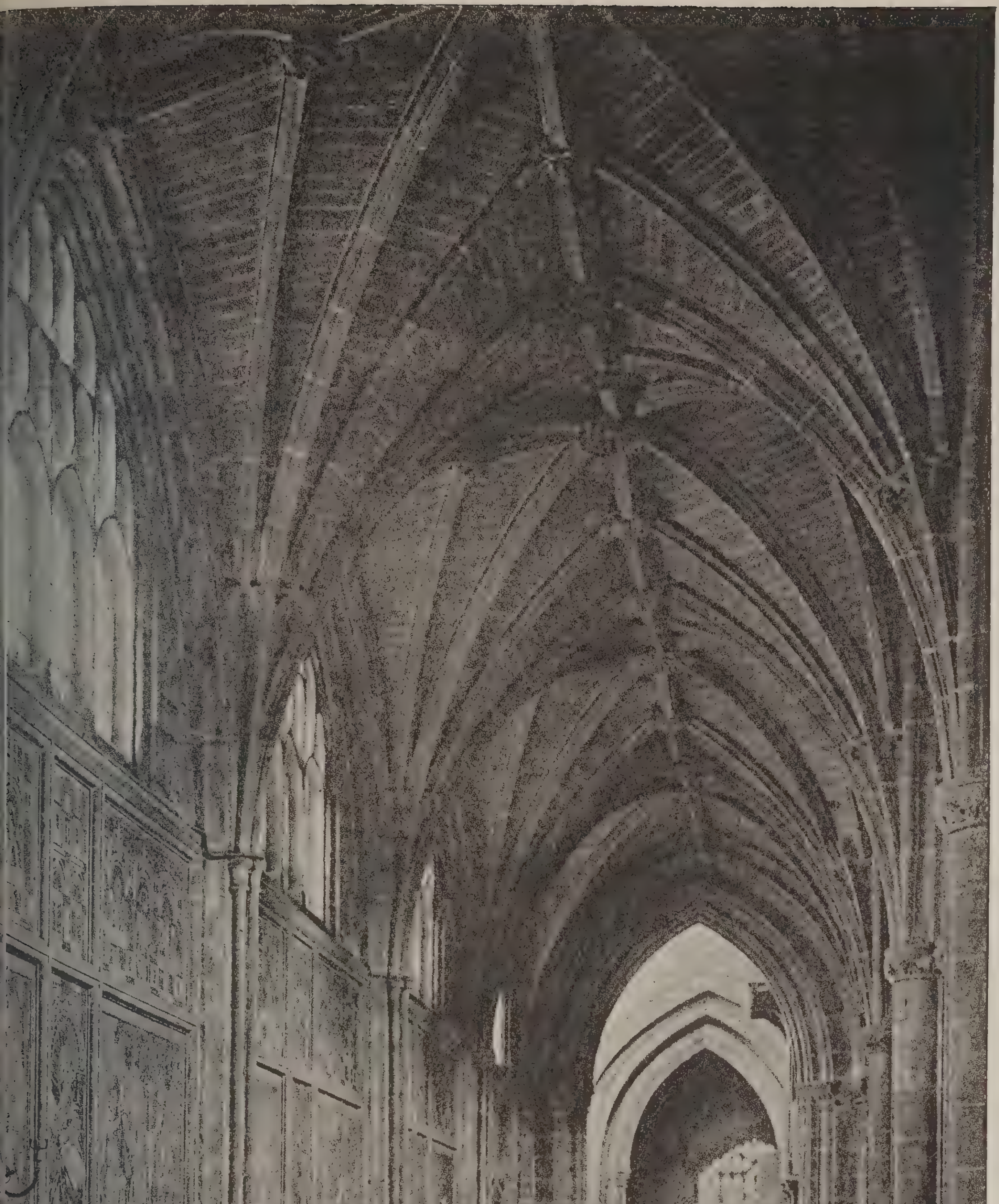

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TR: Mosaics in Aisle.

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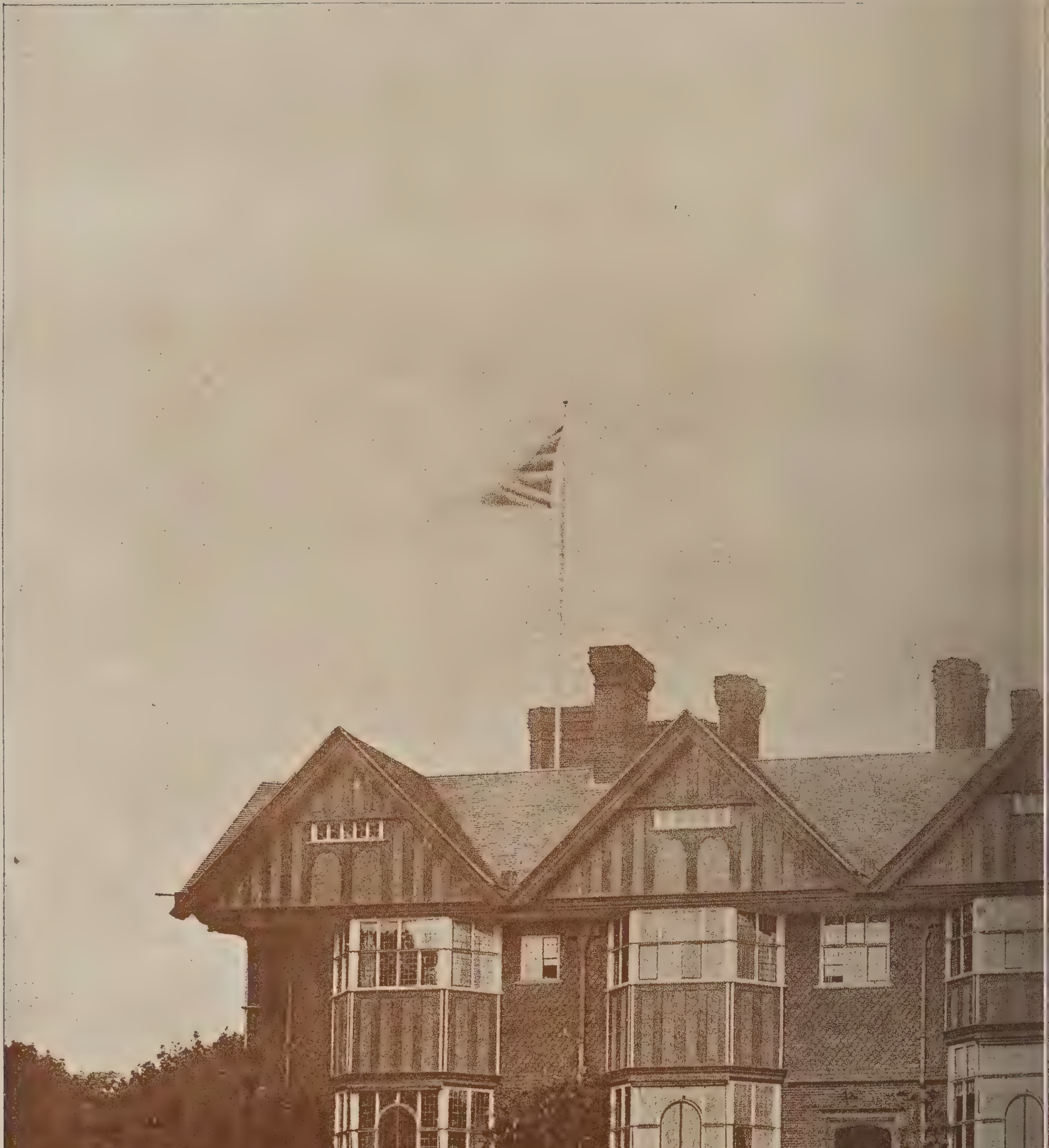

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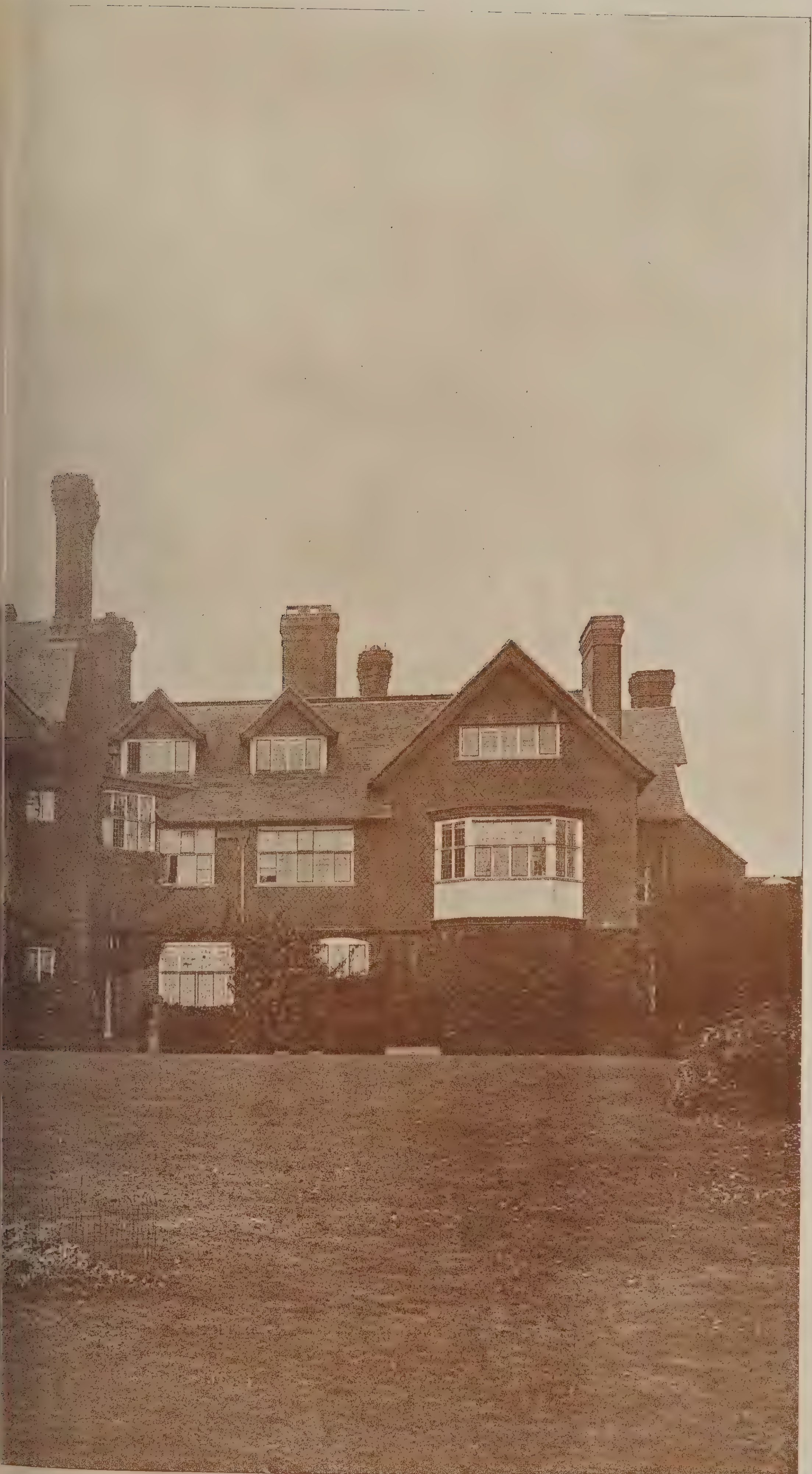
HOUSE AT BANSTEAD,

NORMAN SHA



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The Architect.

THE WEEK.

SOME years ago we published a couple of large plates by M. ACHILLE SIROUY. He was one of those French painters who believe their province is the representation of pictures in black and white. He therefore devoted himself to translations of the masterpieces of French painting. M. SIROUY was a leader among a band of artists almost nknown in this country. His lithographs were recognised s genuine works of art, and were found on the walls of many salons as well as in the portfolios of amateurs. M. SIROUY died last week in Paris at the age of sixty-seven. He was frequently elected a member of the jury of the Salon, and as an expert in his own art his authority was unquestioned. In an article on his *Athalie*, after XAVIER SIGALON, we said :—"There are critics who will say that M. SIROUY'S version is better than the original. This artist very often sacrifices himself out of reverence for other painters, and forsakes his own easel in order that he may translate a picture he admires into black and white. Few etchings or engravings will bear comparison with the chalk drawings which M. SIROUY has produced after artists so unlike as MULREADY, HAMON, PROUDHON, &c., and he is unique as an interpreter of SIGALON and DELACROIX."

IF there is one historic personage who is hated in France it is WILLIAM PITT. He is known as the protagonist in the great war against NAPOLEON, and it might be supposed that the humbler classes believed his spirit was still omnipotent in England. Under the circumstances it seems strange that Frenchmen should be eager to obtain a portrait of WILLIAM PITT to be hung on the walls of the Louvre. But the English school of portraiture is inadequately represented, and an example by LAWRENCE is desirable. It is remarkable that such a fact should appear n a judgment of the law courts. There has been a dispute about certain pictures belonging to Sir ROBERT PEEL which were sold to M. KLEINBERGER. It was contested that the sale was illegal on account of non-compliance with certain formalities of the English courts. But the Court of Appeal decided otherwise, and it was announced in the judgment that M. KLEINBERGER had offered to sell to the Louvre the portrait of PITT. We do not suggest that the acquisition of the picture affected the judgment, but the fact remains that the English statesman may one day appear to look peaceably down on the successors of the men who called themselves his enemies.

EVERYONE has heard the story first related by Speaker ONSLOW, that when the Earl of BEDFORD sent for INIGO JONES he told him he wanted a chapel for the people of Covent Garden, but added, "I shall not go to much expense—in short, I would not have it much better than a barn." "Well, then," replied the architect, "you shall have the handsomest barn in the kingdom." INIGO'S "barn" was destroyed by fire in 1795, and rebuilt as closely as possible to the details of the original by JOHN HARDWICK. The payment of the rector was charged upon the houses in the parish, which was mainly taken from the parish of St. Martin's-in-the-Fields. In those days the parishioners occupied their houses. But of late years houses have been supplanted by business premises. The only residential purposes they serve are in sheltering caretakers at night. There is in consequence an objection to payment of the rector's rate. In two cases recently before the Westminster County Court judgment was given for the churchwardens who sought to recover the rate. An appeal was heard in the King's Bench Division before the Lord Chief Justice and Mr. Justice KENNEDY on Monday. Premises to constitute a house, their lordships declared, must have been built as dwelling-houses, or be capable of being occupied as such. In the opinion of the Court, the premises in question did come within that definition. They were originally built as dwelling houses, and were capable, as far as structure was concerned, of being occupied as such, and certain rooms were, in fact, so used. The appeals were accordingly dismissed. This decision is important and will affect other cases. In fact, it might almost be assumed that when a building has been used as a house it always remains one for the purpose of the collection of imposts, although its character may be completely transformed.

THERE is some novelty in finding contractors suggesting a class of work which differs from that described in the specification and bills of quantities on which they have to prepare tenders. Such an incident has just occurred at Portsmouth. The drainage of the town is inadequate. The Government have insisted on a new system and have agreed to pay a part of the expenses. Among the works proposed are sewage tanks at Eastney, for which tenders were invited. Some of the competitors took the trouble to give alternative prices if ferro-concrete were used. This caused the drainage committee to make inquiries. A new specification was accordingly prepared prescribing the use of ferro-concrete, and new tenders were sent in. One of the conditions was that payments should be in the proportion of 80 per cent. of the work executed. Messrs. R. H. B. NEAL, LTD., gave the lowest tender, amounting to 56,678*l.*, but they stipulated that they should be paid 90 per cent., as was more usual, instead of 80 per cent. They were notified that they should conform to the terms in the specification. But they declined to accept the contract unless they received 90 per cent. A special meeting of the Town Council was held on Tuesday to consider the subject. It was pointed out that of late several errors had occurred in tenders, and it was supposed they were intended to exact more favourable conditions from the Council. The question was also raised whether Mr. MURCHELL, the inventor of ferro-concrete, was to receive 3,000*l.* After a long discussion it was decided to agree to the payment of 90 per cent., and that any royalties must be arranged between the contractors and the inventor. Another curious circumstance is that the borough engineer professes to have not had sufficient experience of ferro-concrete to assume responsibility for it.

BESIDES the Te Palace in Mantua there is an older building known as the Corte Reale, some part of which dates from 1302. It was partially rebuilt under the direction of GIULIO ROMANO, for, as the Duke FREDERICO once said, "This town is not mine, but ROMANO'S." The Sala della Zodiaco, which derived its name from a cupola painted with the signs of the zodiac, is now in great danger. Some ascribe the paintings to GIULIO ROMANO, but from the refinement of style it has been concluded they were produced by a different painter. It is easy to suggest a restoration. So many buildings are in need of reparation in Italy, it is difficult to decide where to begin or where to end. Artists like GIULIO ROMANO, who set about building with as light hearts as if they were making drawings of a plant, must have left all difficulties to be settled by workmen, and in consequence modern Italians have to accept the consequences.

LE MAISONS-LAFFITTE is a familiar village to the people of Paris, for it is not more than eleven English miles from the capital. The chief attraction is the château, which is one of MANSART'S masterpieces, and which becomes additionally interesting from its former inmates. LOUIS XV. was desirous to purchase it for Madame POMPADOUR. VOLTAIRE was often a guest in it. In 1778 it was acquired by the Comte D'ARTOIS, and the royal family resided in it for short periods. At the Revolution it was sold as national property. The banker LAFFITTE acquired it, and as he disposed of part of the domain in small lots, several country houses were erected, and hence the title Maisons-Laffitte. The mansion has been lately offered for sale. But French gentlemen having gained notions of the "confortable" from England, are indisposed to invest in buildings for which the associations fail to offer sufficient compensation for the absence of conditions which can be obtained in a modern structure. As bidders have not been forthcoming, it is now proposed to order a demolition of the château. France has already so many interesting buildings to uphold, MANSART'S mansion may be considered as doomed unless M. OSIRIS appears who will purchase it and give money for its conservation.

THE ARTISTS OF CHARLES I.

It would be interesting to know what motives impelled the people who placed wreaths on Saturday about the statue of Charles I. at Charing Cross. With the majority the spirit of romanticism or theatricalism was likely to be uppermost, for it seems to be growing from year to year. There is as little possibility of any penal consequences following the deposit of a wreath as there would be for playing at conspiracy in an amateur performance on the stage. A few of the votive wreaths may have come from devout souls who remember that King Charles the Martyr continues to be an important ecclesiastical personage, for he is endowed with a special church service. Men and women of that class have been alluded to by Keble in his hymn for the day:—

> And there are aching solitary breasts,
> Whose widow'd walk with thought of thee is cheer'd,
> Our own, our royal Saint: thy memory rests
> On many a prayer, the more for thee endear'd.

It may be safely concluded that varied as were the motives, not one was likely to have been derived from the fact that Charles I. must always hold a place among the amateurs of art. In buying pictures, statues, medals and in rewarding artists he was as selfish as in most of his political acts. We cannot believe that he thought about the elevation of his subjects when he strove to rival some royal collectors abroad. But the fact remains that there was novelty for an English king to follow a pursuit of the kind.

It could not be said that the initiative in favouring the arts was taken by the earlier or later rulers in England. The great nobles present a stronger claim to any merit of the kind. It was either the Earl of Arundel, or the Earl of Surrey, who suggested that Holbein should visit England, and the painter's first patron was Sir Thomas More. It was long believed that for three years he resided in the Chancellor's house at Chelsea. Afterwards Holbein obtained the favour of the king, and it is supposed he died in the house of the Duke of Norfolk, near Aldgate. Torrigiano was engaged by Henry VIII. on the tomb of his father in Westminster Abbey. But the sculptor was brought to England by some Florentine merchants. The names of other artists are mentioned, but they appear to have had patrons outside the Court, and were only occasionally employed by the king. The number of foreign artists in England increased as time went on. We may, therefore, conclude there was a desire among the nobility to purchase pictures and statues. At the accession of Charles I. a great many foreign artists were in this country who could be used by the monarch if he had desired to make the arts serve as aids to his government.

Charles received an education which differed from that of his predecessors on the English throne and suggested that art was appreciated. According to Lily he "had singular skill in limning; was a good judge of pictures; not unskilful in music; was well skilled in things of antiquity; could judge of medals, whether they had the numbers of years they pretended unto; while in painting he had so excellent a fancy that he would supply the defect of art in the workman, and suddenly draw those lines, give those airs and lights which experience and practice had not taught the painter." Those who knew him were not surprised when, soon after his accession in his twenty-fifth year, Charles began to make arrangements for increasing the royal collection. The extent of it at the time cannot now be realised. A list of paintings possessed by his father, James I., is known, but they are mostly portraits of kings, queens, princes and Venetian senators.

The first *coup* of Charles I. was the acquisition of the pictures and statues which formerly belonged to the Duke of Mantua. Nicholas Lanier, the master of His Majesty's Music, was sent on the Continent to provide choice pictures. While in Italy he became acquainted with the Mantuan collection, and the English ambassador in Venice was commanded to give the agent his best advice and assistance. Daniel Nys, who was a French merchant and more of an expert, was afterward able to complete the purchase. In a letter he says:—

> Since I came into the world I have made various contracts, but never a more difficult one than this, and which has succeeded so happily. In the first place, the city of Mantua, and then all the princes of Christendom, both great and small, were struck with astonishment that we could induce the Duke Vincenzo to dispose of them. The people of Mantua made so much noise about it that if Duke Vincenzo could have had them back again he would readily have paid double, and his people would have been willing to supply the money. The Prince of Guastallo proffered half the gain, I believe, to make them a present to the Emperor. The Grand Duke of Tuscany and some of Genoa have done the same, and I am astounded myself at the success of this negotiation. It seems as though some fatality had favoured me, not for myself, but for the sake of him for whom I negotiated, I mean the King of Great Britain.

At first the *Triumph of Cæsar* by Mantegna was not included with the other pictures, but finally the series was placed with the rest. The whole formed a marvellous collection, and the people of Mantua were justified in their revolt against the removal of so many masterpieces. One of the paintings was the beautiful *Mercury Instructing Cupid in the Presence of Venus* by Correggio, which, after subsequent adventures in France, Spain, Italy and Austria, is now in the National Gallery. The nine pictures of the *Triumph of Cæsar* by Mantegna are in Hampton Court. Among other works were the *Twelve Emperors* by Titian, one of Raphael's Madonnas, the *St. Catherine* of Correggio, besides examples by Guido, Giulio Romano, Andrea del Sarto and Tintoretto. It was a victory for Lanier and Daniel Nys; the venture exalted Charles, but neither the agents nor the sovereign asked where the purchase money was to come from. Nys drew upon Burlamachi, the king's banker; the bills, however, were not accepted. Nys, whose agency was honorary, for he sought no commission or other fees, was therefore in a predicament. Charles had not the money, and it seemed likely the affair would come before the law courts of Italy or England. In course of time, however, warrants were issued amounting to 18,280*l.* 12*s.* 8*d.*, which would represent a much larger sum in our time.

Although great care had been taken in packing the paintings, the mercury employed in the gilding of the frames affected some of the colours, and it was necessary to substitute frames in which black was largely used. Then there arose a question about where they should be placed in London. Prince Henry, the elder son of James I., who died in his twentieth year, was also likely if he lived to become an amateur. He had a gallery erected from the design of Inigo Jones, which was connected with the Banqueting House. The king decided to use it for his pictures. The curatorship was given to Abraham Vanderdoort, a Dutch sculptor, with a salary of 40*l.* a year, and the promise of an augmentation to 50*l.* Any coins or medals he might design were to be treated and paid for as extra work to the extent of 40*l.* yearly. Subsequently the office of keeper of the king's pictures was bestowed on Henry Murray.

Nys did not serve his own interests by the part he had taken in the acquisition of the collection. The failure in meeting the bills was unfavourable to his reputation as a merchant, and he was compelled to make an appeal to Charles to rescue him from ruin by the payment of any sums due to him. Charles was then in financial difficulties. His jewels were in pawn in Holland, and a notice was served on the king that if they were not redeemed by a certain day they would be put up for sale. Nys, it may be assumed, was somehow rescued from bankruptcy.

Charles was not content with purchasing pictures like an ordinary individual. He wished, like Francis I. or Louis XIV, to have great artists in his service. It is said that Albano, the painter of amorini, was invited to England by the king. Simon Vouet, the French painter, was also promised large rewards, but declined them. The king was more fortunate with Horatio Gentileschi, who came over in 1626, and was allowed an annuity of 100*l.* a year. The king furnished a house for him at a cost of over 4,000*l.* The painter's sons were also taken into the king's service, and were employed partly as agents for the purchase of pictures in Italy, partly as students who were one day to become sergeant-painters. Horatio painted ceilings in the palace of Greenwich, and he was most liberally recompensed by the king. At the dispersal of the king's pictures nine by Gentileschi were sold for 600*l.* The sordid character of the Court is shown by the bribes which the artist had to pay to high officials in order to overcome opposition.

The greatest of all the painters who were connected with Charles I. was Peter Paul Rubens. He became acquainted with Sir Dudley Carleton, who succeeded Sir Henry Wotton as ambassador in Venice. Carleton considered him to be "the prince of painters and of gentlemen." Charles, when Prince of Wales, had obtained a *Judith and Holofernes*, which was supposed to be the work of the master. But Rubens disavowed it. The admiration in which Rubens was held is seen by the Duke of Buckingham paying 100,000 florins for the artist's collection, consisting of thirteen of his own pictures and some pieces of sculpture. Rubens reached England in 1629. His arrival was not entirely owing to a resolve of the king to give him commissions, for Rubens was ambassador from the Archduchess Isabella, and had powers to negotiate for a suspension of arms. He was knighted by Charles, who presented him with the sword enriched with diamonds used for the ceremony. Rubens contrived to find time to paint several pictures whilst diplomatising in London. One was the allegory of *Peace and War*, which is now in the National Gallery, after spending some time in Genoa, where it was known as *The Family of Rubens*. He also undertook to execute an allegorical history of James I. for the Banqueting House of Whitehall. The king afterwards offered him a pension if he would enter his service, and it would not be exacted of him to live in England but at Brussels. The Whitehall pictures were, it is believed, produced by the co-operation of Jordaens, but as payment for them was not promptly forthcoming they were not delivered. They were rolled up for nearly a year, and then it was necessary not only to retouch and mend the cracks, but repaint some of the figures. Although the price was no more than 3,000*l.*, the money had to be paid by instalments, and they were three years in England before the account was settled.

The name of one of Rubens's pupils, Antony Vandyke, is still more closely associated with Charles and his Court. Yet his early experience in England was not promising. He came to London four years before Charles I. was crowned, and then again in 1630, but was disappointed. His portrait of Nicholas Lanier, the chapel-master, was considered so successful that an invitation was sent to him. He was lodged at Blackfriars, was knighted, appointed king's painter and granted a pension of 200*l.* a year. The liberality was well repaid, for as long as Vandyke's portraits of Charles exist it will be doubted whether so refined a being could be desirous to overthrow the Constitution, and was justly executed. Vandyke was eager to paint the walls of the Banqueting House, a work which would enable him to compete with his master's on the ceiling, but as the price asked was the exorbitant sum of 80,000*l.* the king was bound to reject the proposal. Vandyke died in 1641 in his forty-second year, and was buried in Old St. Paul's, near the tomb of John of Gaunt.

In the last year of his reign James I. accorded a pension of 50*l.* a year to Daniel Myttens during life, in consideration of services done and for his better encouragement in the art and skill of picture-drawing. Within a year the grant was confirmed by Charles I., and the painter was described as "our Picture Drawer." When Vandyke came to London and received the appointment of king's painter, Myttens was naturally aggrieved. He proposed to return to The Hague. However, Charles was able to persuade him to stay, promising to find work for the two artists. But Myttens was dissatisfied with his position under the altered circumstances, and left England. He also was a pupil of Rubens, and retained some of the artist's characteristics.

We must not forget to mention Hubert le Sueur, whose statue at Charing Cross, as it appeared on Saturday, has given rise to the foregoing remarks. He was a Frenchman and worked with John of Boulogne, the sculptor, who is often taken by writers for an Italian, and supposed to have been a native of Bologna. There is no certainty concerning the time of Le Sueur's arrival in London, but the name Hubert Laseur, "a picture-drawer," is found in a list of foreigners who lived near Drury Lane in 1626. The commission for the statue so dear to those who pose as Jacobites was given by the Arundel ~~family~~ and therefore no record of it exists in any public document. Walpole states the piece was cast in 1633, in a spot of ground near the church of Covent Garden, and not being erected before the commencement of the Civil War, it was sold by Parliament to John Rivet, a brazier, with strict orders to break it in pieces. He concealed it till the Restoration. The sculptor was known for his busts. He was paid 200*l.* in 1635-36 for "severall busts of brasse sould by him to his Majestie." He received 200*l.* for a statue of *Cleopatra* in brass. He agreed to cast two statues, each 5 feet 8 inches, of James I. and Charles I., for 340*l.* They were afterwards sent to Winchester Cathedral. He also made a *Mercury* for the fountain at Somerset House, a statue of the king, and wax models of *Venus* and *Bacchus*. For the models the price was only 3*l.* each. The pedestal of the statue at Charing Cross was the work of Grinling Gibbons.

It is said that Charles I. was so pleased with his own portrait by Jamesone, of Aberdeen, that he presented him with a diamond ring he was wearing, and that afterwards the painter always drew himself with his hat on, *à la* Rubens, or to suggest the liberty which the king allowed. The king called William Dobson the "English Tintoret," and he was made the successor of Vandyke in his office. But as the Civil War began Charles was unable to display generosity, and the artist died at the age of thirty-six in poverty.

There are other artists of minor repute who found patronage from Charles I.; they were mainly foreigners. Charles was, on the whole, possessed of good judgment, or was well advised, for the list of pictures he collected contains the names of several works which are still admitted to be masterpieces. Thanks to Cromwell the cartoons by Raphael were saved by an outlay of 300*l.* The country would have acquired many other works if the great Protector had exercised more ample power. He undoubtedly reserved certain works which had been purchased by individuals as if he intended them for the public benefit, and it was not until the Restoration the purchasers were able to obtain possession of them.

LES PONTS ET CHAUSSÉES.

The selection of M. Auguste Choisy to be the recipient of the Gold Medal of the Royal Institute of British Architects will attract attention to the institution he represents. Whether M. Choisy was the most eligible candidate is a question for the members. The medal is to be conferred "on some distinguished architect, or man of science or letters, who has designed or executed a building of high merit, or produced a work tending to promote or facilitate the knowledge of architecture, or the various branches of science connected therewith." As a roadmaker M. Choisy can be considered as a man of science, and therefore comes within the conditions. The question, however, should be asked whether the list of distinguished architects in this country who are worthy of the medal is exhausted. Those hitherto selected have practised in London. Provincial architects have been passed over, as well as those in Scotland and Ireland. It will be answered, "They can wait"; but life is brief, and some of the architects who possess claims may pass away before the Institute Council, after having scattered medals over other parts of the world, can turn their attention to Great Britain. But we must not allow an incidental part of the subject to detain us longer.

During the recent inquiries about the condition of English highways, it was suggested that a public roads department was a necessity, and should be created by the Government in order to establish some uniformity of practice in the construction and repairs of roads. The project was only an imitation of the French Ponts et Chaussées. The institution goes back to the reign of Louis XIII., when it was first organised, but in what might be called a rudimentary form. It is needless to remark that in all civilised countries the construction of means of communication is inevitable, and to some extent is a gauge of progress and commerce. The word pontiff, which has so high a signification amongst us, is believed to have originally signified one of the men who were selected to look after bridges and roads. It was an important nay, a sacred duty, and in course of time the title was applied to those who were assumed to be the best auxiliaries along the paths to Paradise. In France a number of circumstances combined during the reign of Louis XIII. to render it necessary that provision should be made for a more efficient examination of roads, and for that purpose it was well to have skilled officers.

France was then losing the last vestiges of its feudal character. The princes and great nobles had each his region, which he controlled in any manner he pleased. Roads were consequently not always adapted for through communication; and in fact there were believed to be advantages in obstacles to travelling and commerce. But it was the aim of Richelieu, if not of the king himself, to deprive princes and nobles of as much power as possible. It was deemed politic to keep them under observation in Paris; one of the consequences being that roads became still more neglected than when the nobles resided in the provinces, and had to be driven over them.

It was in order to cope with the increased difficulties that the terrible system of the *corvée* was then made more of a tyranny. It was a relic of feudalism; and indeed when money was not in general circulation there was a difficulty with the peasant class to meet the obligations imposed on them in any other form than by labour. But as improved roads became desirable the authorities thought it was an easy way of obtaining them by insisting that the works should be carried out in the manner prescribed by the officers through peasant labour. The State would provide no money; the traders who used the highways were probably mulcted in tolls which were applied to other purposes, and no source was left but the toil of the peasantry, for which it was not necessary to pay. If any men objected they were either imprisoned or turned into soldiers. The more the officials of the Ponts et Chaussées discovered about improving the roads the more the *corvée* grew oppressive. Trudaine, the intendant-general of finances, and Perronnet, the great bridge-builder, reorganised the institution, but without alleviating the burden on the unpaid workers. The slavery on the roads was one of the causes of the French Revolution. In the poor province of Berry, the labour which was sacrificed by the *corvée* was reckoned at 700,000 livres per annum. In Lower Normandy there was a similar sacrifice. The toil of the unlucky people was no longer restricted to roads in the neighbourhood of their village. The intendants sent them where they pleased. Nor was the labour confined to road-making. In 1717 it was resolved to erect several barracks, and notices were circulated that the best men in the villages should be despatched to work at them. In fact, so many days were occupied in slavery for public purposes that the tax-collectors, who were rival tyrants, came to the conclusion that the great body of the peasantry would be unable to pay the *taille*, the impost which had to be furnished in gold, silver, or copper coins.

While the majority of the people were ground down—and we should remember that four-fifths of the population of France were labourers or farmers—they could not fail to perceive that the owners of vast properties were not compelled to contribute either in money or labour to the State, and in that way animosities were embittered which had fatal consequences. The political philosophers who arose about that time commented on the iniquities of the system of making and repairing roads. Montesquieu pointed out that even in the feudal times there was far less injustice. On the authority of Beaumanoir he declared that in the twelfth century they repaired roads as was done in the eighteenth century. If a road were irreparable, another was made as close to it as possible. But all parties were forced to contribute towards the cost; even the clergy were ordered to pay by their bishops. In those days, says Montesquieu, such questions were determined by the civil law; now it is the law of politics which governs.

Among the effects of the Revolution was the introduction of a more fair system in the construction of roads. The exigencies of war made it necessary that additional highways should be made, and existing roads improved. The Napoleonic principle of having a greater number of troops at a particular spot and at a particular moment than the enemy imparted a new interest to road-making. In 1804 the Ponts et Chaussées was again altered, and practically the form then imparted to the institution may be said to continue until now.

As happens with other organisations in France, there is not only a Government department, but a school for the preliminary training of future officials. For a long time the Ecole Polytechnique alone furnished the students, and to a large extent it does so still. But in 1854 a decree was passed by which students trained elsewhere were received. The students follow for a certain period the same courses, and go through the same exercises as the military engineers, an arrangement that is expected to produce special advantages in the event of war. The professional courses occupy about three years, having six months in classrooms and six months at work on roads in each year. There are several grades, but the three main divisions are ordinary engineers, chief engineers and general inspectors. There are also subordinate agents. Some of the inspectors form the Council attached to the department of the Minister of Commerce and Public Works.

The school, which has been for some years in the Rue des Saints Pères, was formed in 1747. As the Revolution believed everything established to be defective it was suppressed in 1790. It had to be reopened in the next year. Then it was reorganised, and afterwards reconstituted in 1804. There are three classes of students, and at the end of the three years' course strict examinations are held, and those who are successful receive official appointments. The instruction includes not only applied mechanics, hydraulics, geology, mineralogy, the construction and upkeep of roads, the designing and erection of bridges, drainage, but railway works, canal works, harbour works, architecture, law, political economy, statistics, with English and German. The system, it will be observed, is different to ours. The professors and engineers have been able to collect a vast amount of information relating to roads, and in consequence it is generally allowed that motorists and bicyclists experience less difficulty in traversing France than has to be endured in England. But French architects, although they transact business with the officials, will be amazed to find one of the engineers of the Ponts et Chaussées selected as the recipient of a medal as if he were a Garnier, Duc, Viollet-le-Duc, Lesueur or Hittorff. The choice is the more remarkable, for there is not one English civil engineer among the gold medallists of the Institute.

ARCHITECTURE IN BOMBAY.

A PAPER on the Presidency of Bombay was read by Sir W. Lee Warner before the Indian Section of the Society of Arts. On the architectural remains he said:—In architecture, of which some illustrations will presently be shown, Bombay is full of interest. The Chaitia Buddhist cave at Karli and that at Nasik, dating from 78 B.C. and 129 B.C. respectively, present features not to be found elsewhere, the screen at Karli being specially remarkable. Those at Ajanta, on the frontier of Khandesh, are nearly as interesting as the Ellora caves. The ruins of the Adil Shahi dynasty at Bijapur crowd into a single century from 1557 onwards a marvellous wealth of architectural power. The Titanic size and beautiful proportions of its domes and arches, tombs and palaces are as striking as the exquisite ornament and rich tracery of their windows and other details. Veritable chips from the workshop of the gods lie all over the sparsely inhabited city of to-day, surrounded by inhospitable plains, which once numbered its inhabitants by hundreds of thousands, and they tell to ears that can hear the tale of departed glory and wasted opportunity. More eloquent are the Indo-Saracenic mosques, tombs and wells of Ahmedabad, which combine the finish of Chalukian artists with the largeness and unity of conception of the Mahommedans. The window on the walls of the Bhudder, with its arrangement of three trees and four palms, is a gem of art in its design and tracery, as you will presently see. But the point on which I now wish to insist is the tale which the builders of these relics tell of a Mahommedan rule raised upon Hindoo foundations, and of conquerors forced by the strong influence of the place and its inhabitants to alter their rigid rules, and become partners with the conquered, even in the solemn duty of expressing in stone their laments for the dead or their devotion to God. Cambay, Dholka and other places in Gujerat contribute worthy memorials of the past, while in Sind the coloured tiles, with the beauty of the patterns and the harmony of their tints, still remind the people of Tatta of their Persian connection. In short, the stones of the Presidency tell their story of conquerors following conquerors, and leaving behind them confusion and variety.

PORTRAITS IN STONE.

A BOX has been sent by Mr. Auberon Herbert from Cairo to the *Times* containing several examples of "portraits in stone" of a very early age, and a letter entitled "Our Kinsmen of the Stone Period." "Being in Egypt," he writes, "and at the edge of the desert, I went to see if here too the old races had not left some carved record of their lives behind them. And there they lay—waiting still for some one to pick them up and admire them—as they have lain for so many thousands of years. Much of the work most delicately, exquisitely done, such sure unwavering lines, no doubt or hesitation, and the little points that express the soldier's nose, the bird's beak, the projections of the helmet, so clean and sharp and true. Born artists, like the Japanese, able to say on the stone just what they wished to say, neither more nor less. And now comes what is perhaps the chief interest in it all. In its general character the work closely corresponds with the work in the English gravel pits. In both countries they work the face of the stone to a fine edge so as to get the clear profile; in both countries they split the stone into fine flakes or sheets—sometimes as thin as the paper on which we write our letters; some of the military headpieces exactly correspond; in both countries the same miniature work; and in both countries the same types appear—the holy man with his peaceful reposeful face, the citizen soldier—as I believe him to be—with the pointed decorated head-gear, those with the flat head-gear and those with the round head-gear—these last forming, as I judge them, a less important and distinguished caste. No one really conversant with these picture stones of both countries, no one who has given careful study to them, can doubt, as I believe, that at some moment in their history the two races were one. . . . As interesting as the resemblances are the differences. What I write now I must write with great reserve, for I am speaking from first impressions. The manual skill of the worker here was, I think, distinctly greater than with us, but the material was more kind and tractable than our English flint. There are in England but very few examples of such decorated work as are common here; but what as a race we had lost in elaborate design and manual skill we had gained in other ways. The race here seems to have been more ruled and regulated; their life much more ordered for them; they were much more of a military machine; war seems almost wholly to have occupied their thoughts; there is but little—some there is—of the play and imagination, of the human interest, of the humour and laughter and caricature that abound in the English pits, and as the race marched westwards and northwards they must have lost much of the love of that show and display which are so striking here. You would laugh to see some of the helmets which these warriors wore—huge, fantastic, with great threatening faces—*grandior vultus*, to terrify the enemy, carved on them, whilst from underneath the great overpowering mass the real soldier peeps out, a mere speck, like a doll's face, lost and buried in the great pile, which reduces him to insignificance. . . . All this changes with our English race. . . . The magic of English soil—may I so speak without indulging in too much national conceit?—is already at work. The race has grown and developed; it has become more free; more human; more touched with different interests; it has become gay, friendly, and though still in temper a very military race, it settles down to a peaceful ordered life. . . . And now, sir, I must remember that your heart is given at this moment to exports and imports, and I must not say more; but I hope you may spare from your busy day two minutes just to glance at the small examples, which I venture to send, of the work of our brother-race. Is not the skill of their hand wonderful?"

REALISM AND IMPRESSIONISM.

THE sixth and last of the series of lectures on painting, which was entitled "Realism and Impressionism," was delivered on Thursday last at the Royal Academy by Mr. George Clausen, A.R.A. Touching on idealism in art, he said that unquestionably the greatest work in painting that had ever been produced was the ceiling of the Sistine Chapel. Never had there been such a perfect balance of intellect and emotion, each carried to its highest point, as in this work of Michel Angelo, who was the one ideal artist. Sir Joshua Reynolds, in his admirable discourses, exhorted his students to take Michel Angelo as their model, yet he himself was a follower of the traditions of the Venetians and of Vandyke. This, he thought, was no inconsistency. Reynolds, while he knew how great was his own work, placed it and that of many great artists below that of Michel Angelo, which he felt to be the greatest. But to follow in the steps of Michel Angelo not only was the will necessary, one must have the mind of Michel Angelo. Efforts to follow him had often resulted in bombastic pretentiousness; the only artist, as far as he knew, who had been able to enter into and carry on his spirit worthily was Alfred Stevens, who continued the spirit of the Renaissance. The tendency to estimate the manner as of greater account than the mind was the cause of many failures in the direction of idealism, which must be governed by the idea. The majority had to walk in humbler paths, and keep within the limits of man's experience, or within what was known by the elastic term realism. Realism might be of different kinds. The realism of surface was a false realism. Truth of resemblance was not produced by the sum of little things, and it was a common error that much detail meant completeness. Detail should and must be attended to, but it must come after the qualities of structure and expression. The realism of expression or character might reach the level of the highest art; it depended on the degree in which it was an analysis and abstraction of essential forms. It was possible for detail carried to the extremest point still to be broad, still to keep structure and expression, as in the work of Van Eyck and Holbein, or in modern work, in "The Last of England," by Ford Madox Brown, and the "Ophelia" of Millais. The realism of expression or character was to be found in Titian, Tintoret and Rembrandt, and as a rule they found it in the work of a man towards the end of his career. They found examples of realism midway between these two extremes in Velasquez, Moroni, Lorenzo Lotto, and in some of the work of Veronese and Frans Hals, and this middle course, he thought, was the direction in which realism in portraiture should go. We were under a disadvantage as compared with early painters, such as Botticelli, in that we had not the same naive simplicity of mind. We were too self-conscious, too critical, and seldom was a Scriptural subject or allegory painted now the realism of which, despite its skill, we did not challenge as inappropriate and distracting. It was impossible to say where realism ended and impressionism began, and the latter term ought not to be confined to any particular school of experimenters in colour. There was an impressionism so personal that none but the painter could understand it; but he would use the term to denote the work of those who strove to record the effects of light in open air in a way that was true but unconventional. There had always been a kind of impressionism in painting—in the rendering of form and movement, but it was not until landscape-painting had been so developed by Turner that it was found that there was a new field, a little corner of nature which had not been explored in which there was beauty. Turner was the first to try to get a higher scale of colour gradation, to get colour in the shadows as well as in the lights. His principles were taken up by a number of artists, most of whom were still living. Manet developed a marvellously true and beautiful sense for colour, and he painted more and more brightly in the attempt to get the impression that sunlight produced on the eye. In the extreme developments of this search for the effect of light the colours were put on pure and unmixed in spots or streaks side by side, but this seemed to him to go beyond reason. De Hoogh, in his courtyard of a Dutch house, painting in a lower scale of colour, got the daylight effect with absolute truth yet with more reticence. But though from some of the work of the modern impressionists they might turn with more respect to the older and more restful painters, something had been gained, and they could not go contentedly back to brown shadows and degraded tones. While keeping something of the breadth and simplicity of the older men they strove to keep their colours bright and tones clear. The art of Japan, than which none was more beautiful in the sense simply of giving pleasure, had had considerable influence on European painting during the last fifty years. He did not think it altogether good for our art to come under its influence, and we could not assimilate it. We might, however, note with advantage its decorative charm.

LIVERPOOL ARCHITECTURAL SOCIETY.

THE sixth ordinary meeting of the session of this Society was held on Monday evening at the Rooms, Harrington Street. Mr. T. E. Eccles, vice president, presided. A paper was read by Mr. Henry Tanner, jun, of London, on "Interior Woodwork in England." The Chairman, in introducing Mr. Tanner, said that the lecturer was the author of a valuable work dealing with the subject of his lecture. Mr. Tanner gave an interesting and instructive paper, in which he dealt chiefly with Domestic woodwork of the Renaissance period. He showed the influence of Italian and other craftsmen in developing the treatment of woodwork and traced the various steps which marked the progress of that branch of Domestic architecture. Various examples were given of panels, doors, staircases and hall screens as illustrated in many old halls and mansions throughout the country. A number of drawings which were exhibited served to usefully illustrate the various points of the lecture. Mr. Tanner was cordially thanked at the close.

THE BRITISH ACADEMY.

At a meeting of the British Academy on Wednesday in last week a paper was read by Mr. F. G. Kenyon, Fellow of the Academy, on "The Evidence of Greek Papyri with regard to Textual Criticism." Nearly 350 papyri, containing portions of literary works, are now extant, of which nearly 200 are fragments of works previously known. These, being mostly written earlier than A.D. 300, afford a valuable means of testing the trustworthiness of the manuscripts on which our knowledge of classical literature has hitherto depended, which are of the eleventh century or later. An examination of their evidence in detail leads to the following conclusions :—First, that the texts preserved in the papyri are substantially identical with those found in the much later vellum MSS., so that the authenticity of our existing texts is confirmed. Secondly, that the conjectural emendations of modern critics are only confirmed in comparatively few instances, and only in respect of comparatively small alterations. Thirdly, the divisions into groups and families found in our Mediæval manuscripts do not go back to the papyrus period, so that it is unsafe for critics to pin their faith entirely to any one group or manuscript. The evidence of the papyri thus tends to support caution and conservatism in criticism.

ARCHITECTS' FEES.

At a special sitting of the Brighton County Court, His Honour Judge Scully had before him the case of Udny *v.* Taylor, a remitted action in which the plaintiff, Mr. Augustus C. Udny, architect and surveyor, Hove, sought to recover from the defendant, William Taylor, Brighton, builder, 60*l.* for fees for professional work done.

In the action commenced in the High Court, the Master made an order for the payment of 12*l.*, with leave to defend as to the remainder.

Plaintiff, who is the architect and surveyor to the Stanford estate, stated (says the *Sussex Daily News*) that in October 1899, he had instructions from defendant to prepare plans for one house in Knoyle Road, Preston, and subsequently for four other houses there They were all supplied by August 20, 1901, witness having to prepare three sets of plans in each case and get the approval of the Brighton Corporation. Defendant supplied him with some rough pencil sketches of the houses, but although witness used them as a basis as far as possible for the plans, they were incomplete and he had to make many alterations. They were simply meant to convey the defendant's idea and showed no drains, sanitary arrangements or servants' offices, and only rough dimensions of the rooms. Before the work was done defendant said, "I don't know what you'll charge me," and witness replied that he did not suppose they should fall out about it, but he never said he would only charge defendant a trifle for office expenses, or that it would be a job for his clerks. In June 1902, he told the defendant his charge would be 1¼ per cent. on the estimated value of the houses. He said he had never paid so much before and witness agreed to reduce his charge to 1 per cent. The account was sent in three times and no notice taken of it, and it was not until a fourth application for payment was made that defendant replied, refusing to pay on the ground that his charges were excessive.

In cross-examination, plaintiff said he believed it was understood that some concession should be made to a working builder, and he had not charged him on the same scale as he would a private client, but he was not aware that there should be a further concession if the builder furnished sketches. In this case they were crude and really of no assistance. Witness devoted two and a half days of his own time to the plans of each house, and an assistant was engaged altogether upon these plans for fifty-one days. He did not regard the time as excessive.

Mr James Combes, plaintiff's assistant, who was engaged upon the plans, and Mr. C. E. Clayton, of Messrs. Clayton & Black, architects and surveyors, were also called, the latter stating that in his opinion the plaintiff's charges were fair and reasonable.

This was the case for the plaintiff

The defendant stated that he had previously had similar plans for two houses in Harrington Road prepared by another surveyor for three guineas. He told plaintiff that, when the latter suggested that he should prepare the plans for the Knoyle Road houses, and plaintiff told him that his usual charge was 1 per cent., but that he should not charge witness anything like that. He also said it would be a small charge just to cover office expenses. It was absurd to suggest that, apart from the architect's own time, an assistant was engaged upon the plans for 51 days. The rough sketches witness supplied plaintiff with included the elevation of two of the houses and the floor plans of all. A sum of 12*l.* or 15*l.* would be, in his opinion, a reasonable charge for what plaintiff had done, but witness had paid 24*l.* into Court, including 12*l.* under the order of the Master.

Mr. E. J. Hamilton, architect and surveyor, New Road, Brighton, gave evidence as to having prepared the plans of two houses in Harrington Road for defendant for three guineas. It was rather a low price, but on the other hand he regarded plaintiff's charge of over 12*l.* for similar work as certainly too high. Plaintiff's plans, however, were more elaborately finished and there seemed to be more personal work in them. He thought a fair charge would be seven or eight guineas for the plans of each house which the plaintiff had prepared, but they were unnecessarily elaborate, and six guineas a house would be a fair charge to make for all the plans that were necessary.

Cross-examined: He said that if there were many alterations to the sketches and many interviews with the defendant that would increase the cost.

Expert evidence was also given by Mr. T. H. Scutt, architect and surveyor, North Street, who was of opinion that 20*l.* would be a reasonable charge for preparing the necessary plans.

His Honour found for the plaintiff for the full amount claimed and entered judgment accordingly with costs.

YORKSHIRE ARCHÆOLOGICAL SOCIETY.

At the thirty-ninth annual meeting of the Yorkshire Archæological Society in the Rooms, Park Street, Leeds, some interesting references were made to the recent researches and studies in the county. Sir Thomas Brooke, Bart., was in the chair.

In moving the adoption of the report, the Chairman said the Society had been going on in a quiet and useful way during the year. There had been two most interesting excursions At York they joined the Royal Archæological Institute, and some explanations were given of the wonderful remains of ancient stained glass in the different parish churches of the city. The second visit was to Boroughbridge and Aldborough, where much that was of interest was explained and noted. There had been a slight reduction in the number of the members, which stood at about 400, and 393 of them had paid their subscriptions. Many useful and valuable books in connection with the "Record Series" it had been found impossible to include in the issue of the "Journal." He expressed a hope that efforts would be made to render this branch of the Society's work a little more prosperous than it had been. There had, he added, been very little difference in the financial position of the Society, the treasurer's account showing 1*l* 1*s.* in hand, against 4*l* 14*s.* 5*d.* at the beginning of the year. Sir Thomas Brooke then gave a list of the contributions promised for the forthcoming volume of the Society's publication.

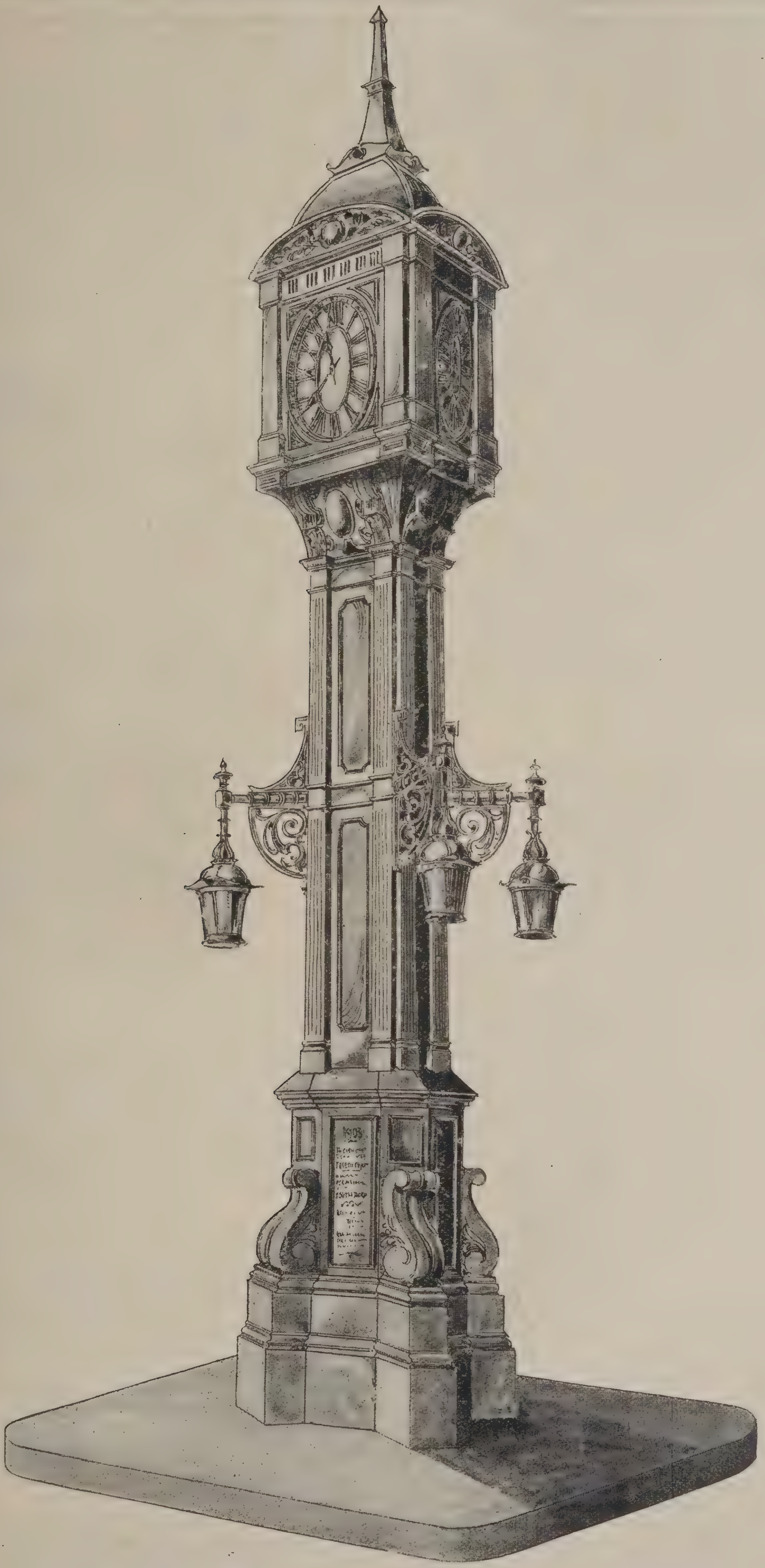
Mr. Chadwick seconded the motion, which was carried after some explanations in reply to Colonel Wilson as to the balance-sheet.

Sir Thomas Brooke was, on the motion of Sir G. Armytage, seconded by Dr. Leadman, unanimously re-elected president, and other officers were appointed.

MEMORIAL CLOCK TOWER, BIRMINGHAM.

On Saturday Mrs. Joseph Chamberlain unveiled the second memorial of her husband which has been erected in Birmingham. The first was in recognition of Mr. Chamberlain's services as a member of the Corporation and representative of Birmingham in Parliament. The memorial clock is more expressive of the admiration of West Birmingham for the Colonial Secretary. It stands at the junction of Warstone Lane with Vyse Street and Frederick Street, in the centre of what may be called the jewellery district of the city. The clock was manufactured by Messrs. W. F. Evans & Sons, of Handsworth. The structure is to be credited to Messrs. Hart, Son, Peard & Co., whose architectural metalwork has been admired in all parts of the country for over half a century. On a tablet are engraved the following words :—"1903. In commemoration of the visit paid to South Africa by the Right Hon. J. Chamberlain, M.P., Secretary of State for the Colonies, this clock was erected by his constituents, the electors of West Birmingham.—Henry Payton, J.P., chairman. Landed at Durban, December 26, 1902 ; sailed from Cape Town, February 25, 1903." The following sentence from one of Mr. Chamberlain's speeches is added :—"We have shown that we can be strong and resolute in war ; it is equally important to show that we can be strong and resolute in peace."

The design and construction of the whole work and its erection has been carried out by Messrs. Hart, Son, Peard & Co., Ltd., of Birmingham and London, who have made clock towers for several places in England and India.



WEST BIRMINGHAM MEMORIAL CLOCK TOWER TO THE RIGHT HON. J. CHAMBERLAIN.

Designed and executed by Messrs. Hart, Son, Peard & Co. Ltd., Birmingham and London.
Clock supplied by Messrs. W. F. Evans & Co., Handsworth, Birmingham.

NOTES AND COMMENTS.

The destruction of the Turin Library has deprived the world of manuscripts which were invaluable and for which substitutes cannot be found, no matter what price would be allowed by insurance companies. In all such cases the advantage of photographic reproductions as records will be apparent. They would at least serve to give some indications to posterity of the works which have vanished. In public libraries which come under Government control there may be little difficulty in the preparation of a series of plates representing the most important works. But with private owners, and especially in this country, where property is so jealously guarded, the case is different. In order to deal with the matter a committee has been formed, consisting of Lord Balcarres, M.P., Sir Walter Armstrong, Sir Martin Conway, Mr. Sidney Colvin, Mr. Lionel Cust, Mr. Claude Phillips, Mr. G. F. Warner, Mr. Roger Fry, Mr. Herbert Cook, Mr. Charles Ricketts and Mr. Alban Head. They propose to form a small Society for the purpose of photographing and publishing reproductions of works of art in private collections and small galleries difficult of access. It might be presumed that no obstacles would arise to the operations suggested. That, however, is not the case. A great many owners of works of art imagine that the existence of a photograph in some way diminishes the value of the original work. Sometimes it is believed that imitation is facilitated by a photograph and rivals would appear which would be detrimental. Many people who buy works of art do not possess the knowledge which would enable them to distinguish between originals and imitations. In the course of time the difficulty is increased, and when doubts arise an original and authentic work may be undervalued unless there is evidence forthcoming which cannot be gainsaid.

Drury Lane and Covent Garden Theatres, possessing special patents, are outside the jurisdiction of the London County Council. The directors of the latter carried out all the suggestions that the Council thought requisite for the public safety. The directors of Drury Lane Theatre have had a long correspondence with the Council on the subject. In the last letter they stated :—"We are convinced that Drury Lane Theatre is as safe as any in the kingdom, and, in proof of our confidence in this respect, we are quite willing, if the architects of the Council and of the Theatre Company cannot agree as to what is necessary to be done, that the question should be decided, as we understand has been arranged for in the case of the licensed theatres, by an independent arbitrator to be nominated by the Office of Works, and we shall be prepared to abide by his decision. We trust, however, that this will not be necessary and that an arrangement will obviate the necessity for recourse to arbitration." At the meeting of the County Council on Tuesday, the chairman of the theatres committee stated that nothing would satisfy the committee so well as the submission of the matter to an arbitrator nominated by the Office of Works. If the directors of the theatre would give that undertaking they had nothing more to say. But if the directors agreed to carry out all the Council's requirements there would, of course, be no need of arbitration. The performances at Drury Lane are largely attended, and as the building is rather old, the Council are justified in their anxiety. It is asserted, however, that the house can be cleared in less than two minutes and the fire-curtain lowered in ten seconds. The possibility of such a scene as was lately witnessed in Chicago is therefore remote.

In the history of art we frequently hear of examples of what may be called payment in kind. A painter or a sculptor preferred to part with one of his works in exchange for something else. He may or may not have possessed current coin. Unless the work existed it was sometimes difficult to make the parties agree. A modern example of the ancient mode has just arisen in Paris, and has had to be decided in the law courts. M. Daniel Vierge, who has acquired reputation by his original illustrations, was desirous to organise a special exhibition of his works. He therefore entered into an arrangement with M. Georges Petit for the use of his gallery, which is well known to amateurs. The rent was to be 3,000 francs, but it was agreed that four water-colour drawings signed by M. Vierge would be accepted instead of coin. M. Petit when he received the drawings felt dissatisfied with them, as he considered that their value was not equivalent to the sum owing to him. He brought an action against the artist to recover 3,000 francs, being willing to return the drawings. M. Vierge, on the other hand, upheld the value of his works. It was a difficult question for a court to settle, and very wisely the decision was left to M. Harpignies, the painter, who is one of the survivors of the revolutionary school of landscape painters, and whose style bears no affinity to that of M. Vierge.

Among the small bronzes to be seen on the upper floor of the Naples Museum is a collection of mathematical instruments mainly derived from Pompeii. It comprises compasses, linear measures and a square. The interest of the measures is likely to be surpassed by a bronze rule which has just been found in the excavations on the site of the ancient Roman castle called Viricianis, in Weissenburg, a small town in the district that was known as Franconia. The digging has been in progress for over a year, although not continuously, and many interesting remains have been brought to light. But an instrument used for measurement may be considered as unique. It is exactly a Roman *pes*, or foot, in length ; and, like a modern rule, moves on a hinge. Evidently it was intended to be employed, when necessary, as a square and even for striking out a circle. The subjects are marked with points and indicate 12 pollices, 16 digiti and 4 palmi. It therefore is similar to a rule now in Naples. It has been decided to continue the digging some time this year, but as the only contribution which can be levied in the district is 2,000 marks, the operations can be conducted on merely a limited area.

ILLUSTRATIONS.

HOUSE AT BANSTEAD, SURREY: THE HALL.

ROMAN CATHOLIC CATHEDRAL, WESTMINSTER: EAST SIDE, SHOWING TOWER.

NEW BUSINESS PREMISES, BATHGATE, FOR THE BATHGATE CO-OPERATIVE SOCIETY, LTD.

In 1859 the first experiment in co-operation was attempted in the town of Bathgate. The combined capital of the six members amounted to 19*l.* 19*s.*, all of which was invested in setting up a small bakery. The capital is now 26,000*l.*, and the annual trade about 60,000*l.* The illustration shows the new premises, which were lately erected at a cost of about 10,000*l.* from the plans of Mr. J. Graham Fairley, architect, Edinburgh.

RESIDENCE, PUTNEY PARK ESTATE, SURREY.

This freehold residence is estimated to cost 4,000*l.* The drawing-room, dining room and smoking room face the gardens. The billiard-room is on the first floor, and there are thirteen bedrooms. The kitchen arrangements have received especial care in the design. The kitchen contains a pretty bay window, and there is a tiled scullery and butler's pantry on the ground floor, with well lighted coal, wine, wood and beer cellars and pantry in the basement. The large and lofty hall, with its fire-place in the centre, is one of the features of the design. The design is by Mr. Alfred E. Nightingale, architect and surveyor, of 66 Hotham Road, Putney.

ELTHAM PALACE, INTERIOR OF HALL.

We recently published detail drawings by Mr. Ion Elton of the Hall, Eltham Palace, to which the silver medal of the Royal Academy was awarded. The illustration shows a perspective view.

OYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last, Mr. Aston Webb, R A., president, the chair.

It was announced that under the will of the late Mr. H. axon Snell a sum of 750*l.* had been bequeathed to the nstitute to establish and maintain a special triannual scholarhip.

Royal Gold Medallist.

The PRESIDENT said the Council, acting under rule 64 of he by-laws, proposed to submit to His Majesty the name of M. Auguste Choisy, chief engineer in the Ecole des Ponts et haussées, Paris, as a fit recipient of the royal medal.

Address to Students.

The PRESIDENT said :—For a second time it falls to my lot o address a few words to you on the occasion of the presentaion of the prizes offered through this Institute.

Last year my subject was the importance of work for all ntending to follow the art of architecture, and I was told by ome that this doctrine was a little hard upon the young men, while, on the other hand, some students were kind enough to write me that they had found what I said encouraging and seful.

Still, though I do not believe for a moment that young men are afraid of hard work, I propose to-night to say something on the pleasures in connection with architecture, for I think there is no work in the world which has more pleasant by-paths and quiet resting-places than the art of architecture. Of course the greatest pleasure of all is the pleasure of your work. f you do not feel this I advise you, as I did last year, to throw up architecture and take to something else before it is too late. Yet what pleasure can be greater than seeing the realisation of your ideas in brick and stone, even though your steps may be altering and the result disappointing? If you can say with Tennyson, "Once in a golden hour I cast to earth a seed, Up here came a flower," then those golden hours will be your pleasure in life; few and far between they may be, but never o be forgotten when they come, and their memory will not fade.

Mr. Stopford Brooke, in closing his life of Browning, describes him in words which perhaps you will allow me to quote, for they apply to an artist in stone as much as to one in words. He says of Browning :—"No fear, no vanity, no lack of interest, no complaint of the world, no anger at criticism disturbed his soul. No laziness, no feebleness in effort injured his work, no desire for money, no faltering of aspiration, no surrender of art for the sake of fame or filthy lucre, no falseness to his ideal, no base pessimisms, no devotion to the false forms of beauty, no despair of man, no retreat from men into a world of sickly or vain beauty" And then, later on, he describes him as "creative and therefore joyful, receptive and therefore thoughtful." Then he continues :—"Italy was his second country, in every city he had friends—friends, not only among men and women, but friends in every ancient wall, in every forest of pines, in every church and palace and town hall, in every painting that great art had wrought, in every storeyed market-place, in every great life which had adorned, honoured and made romantic Italy"

What a vista of pleasures such a life suggests; and I venture to recommend to you young men to take such an ideal as your standard and determine to live as near to it as you may. It all seems very high-flown and impossible perhaps, at the moment, surrounded as you no doubt are, as we all are, by the petty cares, troubles and drudgery of everyday life; but it is just because you are so surrounded that you should set your minds on something better, and you will come to find some good even in drudgery, as Carlyle found in the "common journey-work, well done for want of better"

One of the pleasures an architect should cultivate is reading—poetry of all sorts and kinds, romances, plays and imaginative works generally. If you are to be creative you must also be receptive; you cannot always be giving out unless you are also taking in; and if you cultivate the habit of reading you will be able to get rest and refreshment from it, even at times of the greatest perplexity, anxiety and even embarrassment. But you must acquire the habit while you are young, and it will enable you in the future to transplant yourself for an hour or two, at will, into an enchanted land, where builders cease from troubling and even your clients (or your desire for them) will be at rest.

Another of your pleasures will be the study of painting and sculpture (modern and antique) Alfred Stevens, sculptor, painter and architect, used to say, "I know but one art," and if you are wise you will know but one and train yourself accordingly.

And, now, what are the other pleasures of an architect's life that may be indulged in with advantage to himself and his art? I will name a few, though you already know them well, and in naming them I do not suppose you can entertain them all. Still you may acquire a nodding acquaintance with many of them, though if you do kind friends will probably remind you of the proverb, "Jack of all trades, master of none;" but there is a much wiser proverb than that, "Know a little of everything and everything of something." Follow that and you will be a well-equipped man, and that alone will be one of your greatest pleasures in life.

Travel is another of the pleasures that naturally appeal to an architect. You may go round the world or over Europe, or through England, though this costs money, and perhaps that is not a plentiful article with you. Well, then, you have plenty of scope in London alone, which need not cost anything to those who live here. Sir Laurence Alma-Tadema gave a needed hint last year to those about to travel not to go abroad till they knew something of their own country and their own city. Here in London we have two of the finest Gothic and Renaissance churches in the world, a series of Renaissance parish churches unequalled anywhere, and a wealth of domestic and commercial buildings, ancient and modern, that would take a man's life to know. A friend of mine, an architect, has hardly been out of England all his life, and I verily believe his art is the better for it; yet how few study what is at their doors. "For thus 'twas ever, things without our ken owl-like we blink at, and direct our search to farthest Inde, in quest of novelties."

To enjoy travel properly you must, of course, sketch and draw a little. In my day we used to make water-colour sketches, which had no value as pictures and still less as architectural records; but the making of them was, and still is to some of us, a distinct and harmless pleasure, not to be overlooked but enjoyed in moderation. The same pleasure can, I think, be got from pencil sketching, with a few of the leading dimensions added, and though such sketches cannot be framed, they will be useful, which is far more important. The true value of all sketching is to enable the student to arrive first at the end the artist aimed at, and then to discover the means he employed; apart from this all the pretty draughtsmanship we see is quite thrown away. Still, sketching will always remain, however pursued, one of the recreations of an architect's life. Painting is not for him, except, of course, a general knowledge of painting and sculpture—enough to enable him to form an opinion of good and bad, and to distinguish the works of different masters by their various methods, and no man should think of going to Italy without first mastering to some extent our great collection in Trafalgar Square.

Then there is archæology—a good servant but a bad master. We have allowed it to be our master for close on a century, and in return it has well-nigh strangled all the life out of us, so that we dare not call our style our own. The other day I was asked to write my opinions on what is called "L'Art Nouveau." I was obliged to decline; but had I done so I should have said that, though no admirer of that particular phase of art expression, I welcome almost any effort to break through the paralysing trammels in which archæology has bound so much of our work. Still, what greater pleasure can there be than to stay in a country village and trace the growth and history of its parish church, to study the Norman beginning, the various extensions from time to time for increased accommodation or display, the founder's tomb with its genealogy and heraldry, perhaps the matrix of a brass and the disfigured font, the occasional floor tile and the oft-deciphered fresco, all making an ideal holiday and an unadulterated pleasure? only, I must add, you had better leave it at that, and not attempt to reproduce what is not reproduceable.

Then there are what I may call the somewhat sterner pleasures, such as the study of geology and chemistry. Unless you have had your thoughts directed to these at school you are hardly likely to take them up afterwards; but if you have, you will do well to keep in touch with them. The cliffs and hills will be of more interest to you for the one, and all life for the other, and the materials with which you build for both

Music, if you are gifted that way, will give you endless pleasure, if not apparently in very direct connection with your work; yet there may be more relation between the harmonies of sound and the harmonies of proportion than are at present dreamt of in our philosophy.

Another pleasure of a very different kind is that of criticising—not the pleasure of being criticised; that is a chastening ordeal good no doubt for all of us (and one which is never lacking); not the friendly criticism, however severe, among ourselves of each other's work, which is natural, improving and proper; not the friendly and informing criticism, such as we shall no doubt hear from Mr. Gibson to-night, but the pleasure it gives to some to find fault—to set up for themselves some almost impossible preconceived ideal of perfection, and then to hold up a building to scorn and reproach because it has not reached this ideal Be as severe a critic as you like of your own work, and never allow yourself to be fully contented with it, but if I were you, I should leave criticism of the other sort as much as possible alone It is no doubt a duty which some feel bound for the good of their fellow-countrymen to undertake, and useful it no doubt is; but remember what the old Don said to his students, "Everyone may be mistaken sometimes, even the youngest of us." You will find, I think, more real pleasure in the admiration of noble things and fine design than in the criticism of even mean and inferior work.

Perhaps one of the greatest pleasures our work offers to us is the opportunity and pleasure of friendship. Our branch of art is essentially associative. It is conceivable a man may paint a picture or carve a statue in the loneliness of his studio, unassisted by his fellow man, and, as a fact, many painters take pride that they do this, and that their work is that of their own unaided hands. With us it can never be so, and we must cultivate sociability, and be able to rub shoulders and associate with all members of our craft. A policy of splendid isolation is least of all suited to an architect amongst artists. You will, if you are wise, be friends with all whom you employ. You will get better work from an intelligent mason by a little friendly chat with him, than with all your stringent clauses in specification and conditions of contract.

Some people seem to think an architect is a sort of detective set over the men to watch them, and would be horrified to see their architect on friendly terms with those they employ; but such people are not those that are best served, or get the best work done in the end. The architect should rather be in the position of the general selecting his lieutenants to assist him in the work and enjoying the full confidence of his men; they should be proud and pleased to see him on the work, anxious he should see what they are doing, knowing he will praise where praise is due, and blame only where blame is necessary. This may sound to you a little Utopian, but it should not do so. If it is there is something wrong somewhere, and it is for you young men to help to set it right. Then the pleasure of friendship with your brother-architects is one that may last your life or theirs. Our meetings here, and at the Architectural Association, offer the opportunity of sowing the seed which can be strengthened in numberless ways. For myself, I have always been a member of one or more small coteries that meet periodically at each others' houses, and they have always been red-letter days to me. In London, personal competition is rarely so keen that the most strenuous life need not be the cause of losing friends.

I have heard that the late William Burges used to say, the happiest moment in an architect's life was when he received notice that he had won a competition, and before the troubles and anxieties of carrying it out had come upon him. But I would not myself lay too much stress on this, for there is also from time to time, to the man who competes, the counterbalancing depression caused by the receipt of a communication of a different kind. At the same time, I may be allowed to say that some of my happiest times have been passed in working out large competition problems with my friend Mr. Ingress Bell, and I have found there is real pleasure attending on such work.

And now I have left the greatest pleasure of all to the last, the pleasure we may legitimately feel in going over our completed building, in which we have done our level best, with all the skill which we have been able to bring to bear upon it—no detail ill-considered, no requirement overlooked; perfect it cannot be, but if it is as perfect as we can make it we may legitimately be proud of it and honestly pleased at its completion. What more touching picture than the aged Christopher spending each birthday, after the completion of St. Paul's, under its mighty dome? You may be sure that was one of his greatest pleasures in later life, and one he could not have enjoyed had he not known he had done his best.

It is for us older men to see visions—visions of what might have been. It is for you younger men to dream dreams—dreams of what may be. Perhaps some of you are workers who dream no dreams. Well, do not despise those who do; both are required in the world—in our world especially—the dreamer and the practical man. Once in a way, but very rarely, they are found in one man, and then we have the rarest of all products, the genius, like Christopher Wren or Tennyson, who at over eighty sent his last message to young men:—

> O young Mariner,
> Down to the haven,
> Call your companions,
> Launch your vessel,
> And crowd your canvas,
> And, ere it vanishes
> Over the margin,
> After it, follow it,
> Follow The Gleam.

And now I have very imperfectly jotted down, amid a variety of occupations and distractions, some of the pleasures that may come into our lives if we will; it is pleasant for a moment to dwell upon them and to leave dull care behind. Such are the things that will help to make us sing at our work and enjoy it, and so make others enjoy it. You and I will not stand here face to face again, as we do to-night, and so I am glad my last words are not of faction, of disputes and controversy, but of the pleasant side of our art.

I am well aware I have said nothing of that all-important matter design. I have refrained from doing so, because I believe, with William Burges, that this is a direct gift given to each of us in a more or less degree, and there is, therefore, no good in talking any more about it; but, in wishing you all farewell, I also wish you every success in the future.

Some of you will, I doubt not, occupy this chair in due course, and be as surprised to find yourself here as I have been; but whatever may be in store for you, determine you will hold high the standard of our art, and keep your shield bright so that you may stand before the world and be not ashamed.

Mr. James S. Gibson contributed the following

Review of the Works Submitted for the Prizes and Studentships, 1904.

The value of any real criticism lies in the impartial and judicious attitude of the critic towards the work, and it shall be my endeavour to waive any personal preferences or prejudices and treat the subjects in a broad and liberal manner. The usefulness of the criticism lies in the openness of mind of those criticised to allow the resulting reasons and decisions of the critic to influence their work and methods, so that improvement may come; and I am sure you, as students, will not shut out of your mind anything I may have to say simply because it does not happen to coincide with the views you now hold.

The Essay.

Before dealing with the drawings and designs, let me say a few words on the essay, for which unfortunately no work has been submitted this year of sufficient merit to obtain the award. Repeated attempts have been made of recent years to get a good response for the essay medal, and this year eight competitors entered the lists; and it is disappointing to think that not one of those had sufficient grasp of the subject or literary style to obtain the prize, which I am confident would not be withheld by the Council without just cause. Now, the value of expressing oneself clearly in good, terse language is of great moment to you as architects, and the habit of putting in writing your ideas, desires and conclusions is certainly one you should cultivate. You need not think that you have to be a Ruskin in your command and mastery of language to obtain this prize; literary style and finish are no doubt essential, but the cultivation of style will in itself be a pleasure and bring its own reward. To those who are ambitious—and surely ambition courses through the veins of youth—there is an incentive in knowing that the name of one of the foremost novelists of our time, Thomas Hardy, will be found on our scroll as prize essayist for the year 1862. In taking leave of this subject let me say, as one who has had some experience on the prizes committee, that we find the greatest difficulty in obtaining subjects for the essay and also for the designs—subjects which shall be broad, likely to appeal to a great number, and of value to the whole profession. I am sure the committee would gladly welcome suggestions of subjects for future prizes, and if you have any ideas send them in at once for our consideration. Remember that anything in the nature of specialisation is to be avoided.

Now let us turn to the drawings. I propose to review these in the order of their educational sequence or value, taking first the measured drawings, the Pugin Studentship and the Owen Jones Studentship as studies of old work upon which architectural knowledge is based; secondly, the Grissell Medal, as design governed by construction; and, lastly, the Tite and Soane prizes, as designs which show the fruition of the first two groups. I think if students entered for these prizes in the order I have named they would be going through an educational experience which would be of great value to them and likely to lead to beneficial results.

The Measured Drawings.

The measured drawings have attracted twelve competitors, and the medal goes to Mr. L. M. Gotch for a creditable set of drawings of the church of St. Oswald, Ashbourne, Derbyshire. The one-eighth scale drawings are all good—clear records of an interesting work, carefully rendered—just what we have a right to expect in measured work. The $\frac{1}{2}$-inch scale is very weak in freehand drawing, of which there is very little in this set, and in this respect it falls below both the sets distinguished by honourable mention. The full-size sections are unsympathetically drawn; there is too much compass work about them. Remember that T-square and compass drawing is the most elementary kind of drawing and easily acquired. All students would do well in their full sizes to make it quite clear which is the section side of their mouldings, as several of those submitted would read equally well either side, and I would suggest a flick of the brush occasionally on the inside of the moulding, or a thick and thin section. You may find it very annoying in after life to have, for example, your plaster cornices run the reverse way of the moulding because you have not made it absolutely clear which side of your drawing you wanted the mould cut to fit.

The ½-inch details of tracery windows submitted by Mr. G. S. Salomons are beautifully drawn and deserving of commendation.

The Pugin Studentship.

We now pass to the Pugin Studentship, which has only attracted three competitors, of whom one is not important enough to justify serious criticism. The medal is awarded to Mr. F. C. Mears for a comprehensive set of drawings of rather unequal merit. The coloured sketches are sadly lacking in clearness and vigour, and do not express the character of the work. The measured drawings are very good, and those of Pershore Abbey are particularly fine. The pencil and wash drawings are much better than the coloured work, and show sympathy with the Mediæval architecture—work which this studentship was founded to foster—and I have no doubt the student will greatly benefit by his further studies of it. A medal of merit has been awarded to Mr. W. S. A. Gordon for his well-chosen subjects and sympathetically drawn work. The pencil drawings are among the finest ever submitted in this competition.

The Owen Jones Studentship.

The Owen Jones studentship is awarded to Mr. W. Davidson as the best of the five competitors. The drawings show a certain facility in handling water-colours and an ability to draw the figure more than an appreciation of architecture decoratively treated with colour, of which there is no good example among his exhibits. I would especially direct the attention of students to the unwise practice of late years to show examples of marble and mosaic floors and wall linings of elaborate geometrical patterns, which apparently entail an enormous amount of purely mechanical drawing to portray, the artistic results of which are so limited in scope and value. This is especially seen in the prize winner's sheet of floors and friezes, and Mr. L. Rome Guthrie's sheet of marble floors. The endeavour of the student should be concentrated on getting a grasp of the motive that underlies the decorative scheme of any building, the basis upon which the scheme is founded. A note of the detail of a floor or a frieze which is almost entirely geometrical and mechanical in the repetition of its parts is quite enough if the note be a true one as to colour and form.

To illustrate my meaning clearly I think the drawings of the Mihrâb in the Mosque at Cordova, and the Capello Palatina, Palermo, are splendid specimens of the type of drawing which this studentship was founded to encourage. They show the application of colour decoration to architecture in the sense understood by Owen Jones. Those drawings have no tone or atmosphere, although these are the qualities which play the most important part in the colour scheme of any decorated building; but they show the form and colour of the ornament, which used on the building produce the results we all admire. They are really an analysis of the colour scheme, and are valuable on that account. A Turner or a Roberts could give us the tone and atmosphere of these buildings, but we could not deduce from their paintings the means by which the effect is obtained. The water-colour sketches submitted by Mr. H. Morley are an attempt to depict the tone and effect of buildings and landscapes, but they are not very successful as such, and certainly do not bear any relation to the purposes for which the studentship was instituted His drawings of purely architectural detail, such as the "full sizes of a painted altar-piece," are feeble in the extreme. I would strongly urge students to concentrate their energies on architecture decorated with colour, to portray examples of church roofs, arcades, walls and domes; they will find the work just as interesting as doing a few scraps of glass or mosaic or tiles, and they will be better equipped to deal with the decoration of their own buildings. They will thus be able to dispense with about one-half of the drawings now sent in, and the Council will be much better able to judge if the winner is likely to benefit from the further study which the studentship affords.

The Grissell Medal.

We have finished the first part of our subject, and now come to the application of what we have learned, and the Grissell Medal comes first, in that it was founded for the encouragement of construction as governing design. The timber spire or lantern has attracted fourteen competitors, and Mr. W. Hepburn comes easily first. The design is an excellent one, clever in inception, splendidly drawn and carefully worked out in all its details. The problem is one in carpentry, and one which has been solved by the old carpenters who worked on our Mediæval cathedrals in many beautiful and interesting ways, and I think as an exercise it should be worked out logically in the same fashion, and not have rolled steel joists and concrete floors introduced into its solution, as is done by some other competitors. I do not mean for a moment that we should discard the modern steel joists and other inventions, but rather that an exercise in carpentry should be worked out in carpentry, and one in stone worked out in that material. There are few things more inspiring than the grand old roofs and lanterns of the carpenters who knew the capabilities and value of their splendid material. With the exception of the first design, the draughtsmanship of the others is hardly up to the standard one would expect.

The Tite Prize.

The Tite prize begins our list of designs pure and simple, although one cannot say they are either simple or pure designs. The subject of "A Crescent in a Large City" is an exceedingly attractive one, and I am glad to see eleven entrants, all of them being creditable efforts, and some of considerable merit. The prize is awarded to Mr. Heaton Comyn for a nicely proportioned scheme, thoroughly well thought out and capitally drawn. We expect to find in this and the Soane competition grouping of masses, architectural arrangement, good proportion of the various parts, balance of solids and voids and refined detail, and I am sure the author of the winning design has an appreciation of these qualities. The arches spanning the two streets are open to criticism in that the haunches appear to be too weak, and this same defect is to be found in other designs. The competitors should study Waterloo and London Bridges and see what value is to be obtained by having deep voussoirs at the haunches of the arch. The half-inch detail is nicely drawn, although I am inclined to think the work is too delicate for a street façade on a big scale. The medal of merit awarded to Mr. A. D. Nicholson was probably given for his capital water-colour. The proportions of his design are good, but the detail is coarse and not well drawn. "Red Shield" has a fine set of drawings, the half-inch detail being especially good, but the proportions of the upper and lower parts of his design are too equal.

The Soane Medallion.

The Soane medallion has brought forth fourteen competitors of very varied capacities. Some of the drawings are of considerable merit. The medallion has been awarded to Mr. F. J. Horth, whose scheme is on the whole the most coherent and satisfactory. The plan is laid out on sound architectural lines, well proportioned and balanced. The interior is also simple in its parts, nicely built up, the exterior perhaps being the least satisfactory part of the design. The interior eye to the dome is very badly managed, and wants some supporting ribs or other means of bringing it into relation with the rest of the work. The detail wants refinement, and the drawing is hardly up to the standard one has reason to expect in our premier competition. Mr. David Smith secures honourable mention for a really nicely conceived exterior the component parts of which are good, and the general effect is perhaps the best of all the designs. The plan and interior are, however, not up to the same level. It is a great pity that the inspiration of the exterior failed when the plan and interior were fashioned. The drawings are rather slight and lacking in decision and clearness, but they are worthy of the distinction. "Rotunda" sends a restless design, lacking the dignity and reserve which the subject demands. The drawings are probably the best of their kind submitted this year, the interior view being especially good; but even here the author has succumbed to his weakness for Flamboyant detail. "Sanctus Boscus" sends a fine, dignified interior which is wedded to an almost impossible plan.

My duties as critic are now ended. I hope that I have not wounded the feelings of any who have laboured in these various competitions, and I would like to conclude by saying to you, as a fellow-student, the chief reward of labour may not always be a prize. Who knows but that the efforts made in striving to obtain the prize may have awakened feelings and aspirations which will bear fruit far greater than the victor's laurels? While to those who have succeeded in this friendly tournament of skill let me say, Use your successes as stepping-stones to higher achievements.

Mr. W. Goscombe John, A R.A., who proposed a vote of thanks for the address, said to all lovers of art, architecture had pleasures; the scope of painting and sculpture was more limited. The traveller passing remote districts and villages in the country could always find something of architectural interest, and so exercise critical faculties. Painting and sculpture seldom offered similar opportunities.

Mr. W. D. Caröe, who seconded the vote, said he must express regret when he heard that that was the last address of their President, who had decided not to accept a third year of office. The address was admirable, and no happier words could have been spoken in pointing out to all students the pleasures of the great profession. The greatest pleasure that architecture offered he found in being present on the building and seeing it grow brick by brick, and he had often wished in professional practice that one work only was allowed to be carried on at one time.

The President distributed the prizes and the meeting terminated.

THE MAKING OF ARCHITECTS, WITH EXAMPLES OF DRAUGHTSMANSHIP.*

(Concluded from last week.)

NEVER before has skill in draughtsmanship of the right sort been more capable than it is at the present moment, and if drawing alone could insure good building, the architecture of the twentieth century should be of surpassing merit. Drawings necessarily only furnish the architect with his chief and indispensable "instruments of service," and unless he has intuitive taste and inventive capacity, the pen or pencil, however facile the hand may be, will not alone furnish him with ideas or give him what is called "the power of design." The best architects take good care to have their designs well drawn, but I suppose no one realises more entirely the shortcomings of drawing than a good architect. After all, it is the building itself by which he must be judged. Few things are more deceptive than shadow-projected and worked-up elevations unless it be show perspective drawing, and particularly the accommodating pictures of the perspective expert. Sketches and exhibition draughtsmanship are most interesting and useful, but that is a branch of the subject with which we are not concerned to-night, and so for once the pictorial must give way to the practical.

In our consideration of working details the student must remember their eminently conventional character, and as such they fail to give the effect of the materials intended to be employed, while the arbitrary tintings used to show the workpeople and measurers how the several materials come together, convey no guide to the determination of more than the most elementary and incomplete ideas of the architectural result as a work of beauty. The very lines which go to make up the drawing tend to mislead any but an experienced judgment. Thin lines make a design appear weak, and heavy lines give an undue importance to minor points, and by over-accentuating the jointing a fictitious effect is imparted. Burges once said in this room, "We cover our drawings with such quantities of lines that we finish by deceiving ourselves as well as our clients." It is dangerous and unwise to depend upon our drawings unless we possess an intimate acquaintance with materials, and because so many have not cultivated this knowledge as they might well have done the failure of much of our modern work may readily be accounted for. The importance of texture is thus overlooked quite as much as a proper appreciation of scale and colour. The value of surface finish, too, befitting various materials, does not receive the study which ultimate good effect demands. It is desirable to think in the round and design in perspective with what has been called a modelling mind. Drawing in some degree may help us in this, but it cannot enable us to judge as to the weathering properties of materials or their liability to accumulate dirt, and no artistic architect will reckon such considerations as of small concern. They are, indeed, of the greatest consequence, sadly neglected as they often are, and that by some whose negligence would be least expected.

Then, again, if we become too much monopolised in the elaboration of drawings, we are apt to forget other more important matters, such as, for example, the necessity of employing, as far as possible, the natural local materials of the district in which we are called upon to build, so that our work shall successfully constitute an indigenous part of the crust and surface of the earth on which the users of our buildings live, and not remain a fabricated excrescence imported from elsewhere, or a toy upon the ground which, save for the need of someone's roof-tree, might, as Morris said, have remained a neatly-drawn design on the walls of some architect's office. Not only should we use the countryside materials to hand, but the type of design employed must befit the nature of the materials available, insuring in this way the charm of local colour. How frequently the reverse of all this is seen. For instance, mansion-houses in the style known as Late Classic, with porticoes to match, are imported to moorside sites and worked out in coarse millstone grit, which before long inevitably resumes its rocklike character; or to mention another analogous absurdity, you will come upon neat, smug-looking, whitened, rough-cast houses roofed with green Westmoreland slates in the heart of Sussex, where flints and red bricks and sand-faced tiles or Horsham slabs abound. Precisely the same patterned houses, green woodwork, red curtains and "tallboys" can be seen away down in Dorsetshire or up in the Wolds of Yorkshire, suggestive of the equally arty picture post-card, produced and inexpensively distributed with like facility, on the principle of the "Penny plain and twopence coloured" It is this sort of thing which furnishes an excuse for the taunt that we are only "paper architects."

There were, of course, no splendid draughtsmen in the thirteenth century when draughtsmanship was very fragmentary and indifferent; and, for that matter, we also might admit that in all probability a vast number of beautiful buildings all over the land were put up without any architects at all in the now understood annotation of the term, "when the roughest draughts possible were made out for these buildings, and they grew up simply without any intermediary between the mind and the hands of the people who actually built them." There were no polytechnic professors or art lecturers either in those days, and no plethora of books or log-rolling critics to surfeit with commentaries the fringe of art. Professional journals then did not exist, neither did assessors nor competitions. Things have changed, and the causes are various, but it is pure affectation to run down good drawing which does not constitute paper architecture, neither is it at all probable that a man who is workmanlike enough to draw well will be content to build badly. Work has now to be carried out under a totally different set of circumstances. The arbitrary and so-called economic divisions of trades, the principle of contracting and subcontracting, the consequent prevailing deterioration of interest in the work itself for its own sake, and the degenerated minimum yield of labour in return for the maximum amount of pay procurable, present the mercenary and rotten ideal which unfortunately dominates the current labour market of what is called skilled handicraft. The consciousness of self-dependence and the habit of individual judgment possessed by vigour of character under such environment must be well-nigh impossible. When craftsmanship flourished "dumping" was unheard of, and labour questions had not been exploited by big capitalists on the one hand and by paid agitators on the other. Workmanship, in consequence of big factories and huge combines, has become divided and subdivided in rigorous subordination so completely that the worker instead of knowing his work from start to finish now takes his place only as part of a gigantic machine, plodding on with brainless indifference at a set of unvarying details turned out by the hour or by the piece. Prices are settled at a fixed and uniform consideration in cash according to amalgamation rules formulated, irrespective of good workmanship, as such, by vicarious directorates, who assume a convenient ignorance when employés are underpaid or the employers cheated, finding an excuse by reference to the sum of dividends obtainable. Trade-unionism became a necessity, but by doing nothing or next to nothing to insure a tradesman being a skilled workman at his trade, barren badness now passes muster where honest impartiality ought to exclude such rank incapacity.

The building trades are hampered in every direction by labour questions, which thus tend to make individuality and personal excellence an exception rather than possible. For these and other reasons the architect's position is assuming an increasingly essential factor, at least in the character of overseer, in all building enterprise where efficiency and economy are provided for. In further ways, too, the scope of the architect is growing in importance. Though our relation to craftsmanship is entirely changed, many advantages no doubt are available to the profession never dreamt of by our predecessors, even if they cannot have known the pressure of competition as we do. Slipshod architectural pretensions no longer will serve; let us hope they have had their day, and so far as in us lies, we must endeavour to make it as difficult as we can for the charlatan to exist any longer on unqualified ineptitude or on borrowed plumes, till he has become as extinct as the dodo. By insisting on efficiency, our scheme may, in a sense, be termed aggressive on the principle characteristic of Nehemiah, who built with the sword in one hand and a trowel in the other. Our indubitable source of strength must be looked for in equipping ourselves for the occasion and by graduating for the work which the public has in store for us to execute, remembering that success will be attained "much less by extraordinary intellectual gifts than by an extraordinary strength and tenacity of will, by the abnormal courage, perseverance and work power that spring from it, or by the tact and judgment which make men skilful in seizing opportunities, and which, of all intellectual qualities, are most closely allied with character." Prating plausible platitudes about high art or the commonplace of the need of industry will furnish no excuse for not providing adequate training for our pupils, or for failing, any one of us, to do our very best:—

> Thy purpose firm is equal to the deed;
> Who does his best his circumstance allows
> Does well, acts nobly; angels could no more.

Miserable failures may be met in every walk of life protesting that they have done their best. If so, they display a sorry lack of method in the doing of it, and anyhow, while loitering in the encumbered lane of mediocrity, have missed the only high road to the market-square of success. This road is called "efficiency," thence alone leads the narrow path for the few destined to tread the pleasaunce of fame, peopled only by those who really did their best.

Towards the close of last year all Italy was celebrating the centenary of the great Italian poet Alfieri, who rejuvenated the iterature of that country through his tremendous influence on he life of its people. His abilities were seconded by a determination to be satisfied with nothing short of his very best, and hus it was he rose to fame. His first play gave him so little atisfaction that he rewrote it three times throughout before it was ready for the stage.

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* A paper read before the Architectural Association by Mr. Maurice B. Adams on January 22.

When Mr. Edwin Austin Abbey painted his famous picture of the "Trial of Queen Katherine," it took him many months of hard work, and when the painting was finished eople praised it as a masterpiece. The painter himself was ot so satisfied, because to his critical eye the red of the ardinal's robes looked a shade wrong. No one else suggested his lack of harmony in the colouring, but although the picture was completed Mr. Abbey thought it could be improved, so he et to work with his wife and servants to scrape away all the ffending red from the canvas, a process which occupied six ours. The artist then repainted the costume of the cardinal nd so finished his picture, furnishing us with another notable nstance of unqualified resolve to secure the very best.

Literature, science and art afford other like examples, while ommerce, politics and the arts of war furnish the page of history with pictures of men who did nothing short of their tmost and their best. This resolve to do one's best is not ncompatible with the natural distaste for the competitions and ontentions of life which so many really artistic men feel. The impulse of ambition holds with such a secondary lace, and it is not always the strongest man that is the most ardent climber. To not a few the tranquil valleys possess a greater charm than the lofty pinnacles of affairs. We can never grasp the source of another's inspiration and, whether we are most influenced by the past masters of our art r rely more on our contemporaries, their influence can only ructify by our own unaided effort. Pugin influenced a eneration and thanked God he had been permitted to see and tudy the eastern transept of Beverley Minster. Who does ot remember the inspiring force of George Edmund Street, nd who of all of us acquainted with the charm of John Dando Sedding's personality can ever cease to be thankful for his eaven-sent enthusiastic fire? No ghost was secreted in his ffice; he did his work himself and rejoiced in the doing of it, onsequently his buildings are full of interest and always repay visit. Few architects can draw the figure as William Burges ould. Go to Studley Royal and you will not fail to be mpressed by his ornate, Frenchy-Gothic church, built there or the Marquis of Ripon, standing at the top of the noble venue and terminating its vista. Notwithstanding its sug-estion of exotic origin, always evident in Burgess's work, all sense of incongruity is dispelled by the individual personality which distinguishes the design in all its parts down to the smallest detail. Refined taste, exquisite figure-work and a free play of ancy within and without, is the result of loving study ungrudgingly bestowed, leaving no doubt whatever as to Burges having done his very best. Compared with Fountains Abbey hard by in the same park, this florid little church necessarily akes a minor place, and in this comparative respect he had nquestionably an extremely difficult task. None the less, because of its force of individuality, the building holds its own, eaving a lasting memory of undeniable excellence and recondite conography. John Loughborough Pearson's work delights us ust the same He told me he would rather carry out one building in this thorough manner than be employed on half a dozen which he could not personally work out in detail him-elf You have only to look at his buildings from St. Peter's, Vauxhall, onwards in point of date, for the best evidence of his skill, unsparing industry and artistic sincerity. Street, his personal friend, trusted to no other hand than his own the drawing out of every feature of his designs, and it is well known that he modelled some of the ornament in clay for the arvers to work to at the Law Courts. As a draughtsman he was a master among the few of his time.

His armour was his truest thought
And simple truth his utmost skill.

The Gothic Revival may be dead so far as the style of con-emporary work is concerned, but it undeniably influences the present generation of rising architects in ways not exactly apparent on the surface of things, and so long as the buildings of such men as I have named exist their work will live. The same is true of Nesfield and Bentley, and in the making of architects do you not think that the skill of Teulon, Butterfield and James Brooks as well as George Gilbert Scott, jun., will furnish fine object-lessons in the future? Their work contrasts with that of the famous Sir Gilbert Scott, whose establishment at Spring Gardens furnished the most notable example of the possibilities of work carried out under wholesale conditions. With such a number of commissions it was impossible for the principal to draw out or even know about some of the designs issued from his office, consequently the work bearing his name is unequal, distinctive in one instance and failing in interest in another. The pick of the succeeding generation of architects furnished his staff, though it cannot be said that their master founded a school. His R A. lectures on the development of the dome and Gothic architecture rank among the best scholarly attempts to further the making of cultured architects, and he was the real founder of the Royal Architectural Museum.

The purport of this retrospective glance in connection with the show of working drawings hanging on these walls is to direct the attention of some of our younger members to the necessity of their doing what the up-to-date student of thirty years ago did in measuring up old work of pure architectural merit. The battle of the styles has ceased to interest people, and very few at the present time show any real interest in Mediæval architecture at all. No one hardly takes the trouble to draw or study it. This is a great mistake, for it is no use depending on the photographic camera, which in some ways is so helpful and in others so harmful in the making of architects. One drawing thoroughly made for study is worth any number of snapshot prints. Students will never graduate as architects on photography. The authors of the detail drawings collected here to-day learned their business by personal familiarity with the buildings they studied, and the knowledge they acquired was the result of drawing old work on the spot.

Tabulating dates, contrasting periods and accumulating photographs or filing illustrations of buildings may be a useful amusement enough in its way, though, as contrasted with the actuality of an architect's business in real design, leading strings of this kind seem more in keeping with the fumbling stage, which if persisted in slackens all energy, satiating the mind by analysis, that kill-joy so destructive of all possible dreams of beauty. By all your powers seek to gain a more intimate grasp of the spirit with which old work was inspired. By a loving and intelligent study of its structural design and aim a reflex of its vitality and charm may assuredly be caught, but before you attempt any process of dissection stop, for remember murder takes the priority of all dissection, leaving only the remains of death. Bleach the dry bones never so white, the spirit, which alone could make them live, will, by such inquisitiveness, be killed and lost to you for ever. If you would become familiar with the inherent beauty and motive of historic buildings learn more the why and wherefore of their local traditional differences, and note how available materials influenced the work in different buildings erected under the altered circumstances of various times, exercising also an appreciative discrimination by which to avoid that which is only curious and strange Leave for secondary importance that which has become interesting merely as archæological treasure, and by thus recognising the true essentials embodied in the plan and constructive design of old buildings you will find in them an unerring guide for the advancement of your art and subsequent designs. We need never hesitate to adopt as the basis of our own work that which has been done before, incorporating it as our own.

Those who speak slightingly of the so-called "Gothic Revival" do so with more assurance than knowledge, and are apt to forget what we owe to the writings of Pugin, Ruskin and Morris, names which are severally associated with the succeeding phases of that movement. Doubtless the rising generation enjoys many advantages unknown to those who preceded it, but I sometimes think it might be useful to remember with what intense love of their work and with what enthusiasm these Victorian mediævalists carried out their undertakings. It is also wise to recall, too, occasionally the day of small things. For instance, it was in an old shambling cock-loft located in an obscure slum almost on the mud-banks of the Thames that Ruskin, Cockerell and Beresford Hope held crowded audiences in rapt attention while they lectured on the charms of Gothic architecture midst the self-same collection of examples and casts which now have been inherited by the Architectural Association. Many years since, in Oxford, at a meeting held in that university for furthering the erection of perhaps too ambitious a group of educational buildings, Max Müller recalled the fact that "great things had often been done in hovels." William Burges, thirty years ago, when the Architectural Association was by no means so important a body as it is to-day, called it "the life-blood of the profession." Our Society is going stronger than ever, and you will need perhaps little imagination to picture to your minds with what generous zeal Burges, Street and their contemporaries of the Mediæval school would have gathered round in active support of what we are endeavouring to accomplish at the present time. I am well assured that Brydon and Sedding, had they been with us too, would have shown no slackness in helping our project on Such names as these from the immediate past are names to conjure with, for the mere retrospective thought of their enterprise at once invigorates our enthusiasm and animates our determination.

To what extent this educational scheme may be developed it is impossible to foretell, but friends have not been wanting in ambitiously advocating the founding of a National School of Architecture. It will be hardly worth while to battle over this nomenclature question. Provided better architecture is the resultant, it is of no consequence whatever whether the school which insures such improvement be "national" or not. Personally, I doubt the principle of attempting to produce either good painters, sculptors or architects in any strictly Governmental school of art. I need not dilate further upon that matter, but it appears to me that the wiser plan must be to retain the control of art occupation teaching as far as possible in the hands of those who practise the particular arts in question, working, as far as circumstances will allow, on the lines of the historic art workers' guilds. Academical architecture appears to many as synonymous with a *caput mortuum* of pedantry and formalism, so fatal to living art and out of accord with the ends we have in view. To justify this effort the work in itself must be worth the doing. Academic architecture cannot serve, examinations in artistic qualifications are out of the question, and registration, after all that its advocates may urge in its favour, would inevitably fail as a guarantee of artistic ability. Education, even when based upon a unified system of technical training such as we are advocating in accord with university teaching, can do but little in the absence of a nascent fitness on the part of the pupils in so far as architectural design is concerned. To sum up, therefore, the whole matter may be said to be embodied within the scope of the quotation with which I propose to conclude. The paragraph itself, however, must be read in the light of the educational advance which has been inaugurated since it was originally written :—"The aim and object of an architect is to *build* beautifully—this is, of course, including conveniently—for a building that is beautiful but inconvenient and unsuited for its purpose can be of no permanent interest or value. . . . If he sits in his office making picturesque drawings he may be an accomplished draughtsman, but he is not an architect. If he spends his time chiefly in calculating the smallest amount of material that may be used in walls and girders to give a required amount of stability, caring little or nothing about its design, *i.e.* 'architectural construction,' he may be an engineer or builder, but he is not an architect. . . . Architecture is on precisely the same footing as painting and sculpture. A man must, beyond all doubt, be endowed by nature with the special gift; *that* he cannot acquire any more than people unendowed with the necessary gifts can expect to become painters or sculptors; but supposing him to have by nature the art faculty, by the exercise of very ordinary industry and study he can with certainty attain to excellence in what we maintain to be an equally necessary part of his work, namely, skill in purely practical details of construction and arrangement. . . . We maintain that, in a complex art like architecture, a full knowledge of materials used in carrying out work and of all modes of construction is absolutely necessary; it is a mere waste of time to dwell incessantly and almost exclusively on one part of our work only, for without this knowledge an architect cannot claim to be an architect at all—he would be the merest amateur. Nay, more, we hold that no good architecture ever did exist, or ever can exist, apart from sound construction; good construction always has, and always must, do more to influence design than anything else; in short, it is the root and foundation of the whole art, from which all styles and all modes of good building have always sprung."

Mr. W. H. SETH-SMITH, who proposed a vote of thanks to the author of the paper, said that if the architects wished to win the confidence of the public they must prove to them that they were a profession worthy of employment, and that they knew their work thoroughly through practical and artistic training. He did not propose to go into the matter of training; that was a question which could be left to the authority which the Institute was endeavouring to establish, and that authority might define a course upon scientific or artistic lines. He was sure that whatever course was adopted the training must be vested in the hands of practical architects. The Institute was the only body that could successfully undertake it, and when their proposed Board of Education got to work, architects could rely upon the efficiency of its system. He was glad the paper had drawn attention to the necessity of the young student possessing brains, imagination and culture. Without these a man could not be successful in the profession, and the great purpose of the architectural day school seemed to be to discover those who had not chosen their proper calling and to advise them before they seriously embarked upon work as architects.

Mr. W. D. CARÖE seconded the vote of thanks and spoke of the importance of planning, to his mind the beginning of great architecture. No building could be artistic unless it was planned in a convenient way, and he would have liked to have seen a few more plans exhibited on the walls in order that the students could have had impressed upon them the advantage and necessity of planning as a foundation to great design. He emphasised the misuse of materials in various districts. There was an enormous amount of building springing up, but little attention was given to utilising local material; work was erected in a district with material which nearly always came from the other side of the country. He wished to impress upon the future generation of architects that there was nothing mor important in preserving the character of their buildings than t use the materials of the district and to forget the existence o facilities of transport by railway. Dealing with the trainin of architects, he said there was a general uprising agains examination as a test of knowledge. Registration and examination were two fallacies, and he believed that much of th success of the Association had been due to the fact that the eschewed examination.

Mr. W. MILLARD and Professor T. M. SIMPSON supporte the motion.

A vote of thanks was accorded to the numerous architect who had lent working details and general drawings, whic were on view during the evening.

THE ART OF THE SCENE PAINTER.

ON Sunday evening the dinner to a number of representative scene painters was given. Sir Laurence Alma Tadema, R.A., presided, and in the course of his speech said :— The modern stage could not exist without the scenic artist There was a time when English actors and audiences wer content with a bare stage, and when a written announcemen "This is a wood," "This is a seashore," served the purposes o leading into the right direction the minds of a public accustomed to using its imaginative faculties. But an audience o to-day was not prepared thus to evoke scenes for itself, an the scene painter's art in its later developments had certainl had a great effect upon the stage at large. Not only our feelings but our speech and gesture were affected by surroundings No one spoke in a drawing-room as he would speak in a railway station, and it was impossible that any one should wal about a church with the same step he used in a restaurant Therefore it seemed to him that the more strongly the illusio of surroundings could be given the more likely would the actor be to give and the audience to receive fitting expressio of the emotions. And this illusion became all the more necessary when the spirit of the past had to be evoked, for the mer imagination of actor and spectator could not suffice to recreat the aspect or resuscitate the atmosphere of bygone ages. Th art of scene painting was, indeed, a very beautiful art, which ha at its disposal means that were denied to other forms of painting Picture painters had only white to use for the highest expressio of light; the scene painter had real light to play with as h pleased; by its aid dawn broke and twilight fell upon his landscapes, the moon rose and shone, stars glittered in his skies there was a shimmer on his lakes, and the clouds changed i his heavens. By the different lighting of different parts of the picture he could produce impressions that other artists could only dream of. The only advantage painters of pictures ha over the painters of scenery was that they could paint figure pictures, whereas the scenic artists only painted backgrounds for living figures. Yet backgrounds must not be underrated The scenic painter had long since deserved some recognitio beyond the occasional offhand mention of his endeavours i the papers. It was a pity that the work of their friends and brothers of the brush was so short-lived; he wished it were otherwise. It was as a painter as well as a member of the public that he expressed his gratitude to their guests for the delight their work had given him, for the noble settings they had provided for the masterpieces of literature and of histrionic achievement.

Mr. Hann, in responding, said that, notwithstanding al the commendations bestowed upon them, scene painters felt i was impossible that they could ever rise to the high excellence of work which was arrived at by their brothers of the easel. They were hampered by having to employ innumerable assistants, whose varied work it was no small task to bring into harmony. He trusted that the result of the dinner, which he thanked Sir Philip Burne-Jones for organising, would be that scene painters and their hosts of that evening would be brought into closer relationship.

Mr. Pinero, in replying for "The Drama," said there were some people who considered the scenic artists the greatest enemies the stage had. Sir Edward Clarke had lately remarked that he would like to see Mr. Tree play "Hamlet" without scenery. For his part, he could imagine no more pathetic and impressive picture than Sir Edward Clarke witnessing in solemn and solitary state Mr. Tree's delineation of the Prince of Denmark without scenery, and he commended the notion to their friend the chairman (Sir L. Alma-Tadema) as a subject for an historical painting. That evening, he continued, the scenic artists had come by their own. He had heard many disparaging things said of the scene-painter's art, but he knew from personal experience what fine and minute work was put into the canvases painted for the stage. In his opinion, the scenic artists, apart from their art and its value, were staunch friends and loyal comrades of the author; and, speaking for himself, and on behalf of his brother dramatists, he could only say that one of he greatest privileges which their contact with the stage had brought them lay in their association with those who gave to he drama's scenes so vivid and beautiful an illusion.

FIRE PREVENTION IN THEATRES.

On Tuesday, in reply to a number of questions asked on the report of the theatres committee of the London County Council, Sir Algernon West said that the committee had received no official report upon the theatre fire in Chicago The danger there seemed to have arisen from the fact that the heatre was opened without the giving of the proper authority as to its completion or fitness to be opened. That could not possibly occur in this country. The committee never allowed a theatre to be opened unless it was satisfied as to its safety by close examination by the architect and other officials. The exits which existed in Chicago would never be permitted in this country. Some of these exits opened upon balconies from which there were no exits. The fire-curtain was of asbestos of a very friable character, and quite unfit for the purpose for which it was required. In London the fire-curtains were made of rivetted steel. In Chicago the smoke rushed from the stage to the auditorium. That was provided against in this country by skylights and ventilators. Such an event as the Chicago fire was very unlikely to happen in a London theatre. The site regulations in London provided for half of the boundaries of theatres being open thoroughfares, one of which should be 40 feet and the other not less than 20 feet wide; but there were other improvements effected by the regulations of 1901. The floors and tiers were now made fire-resisting, the exits were increased, as were the gangways, and were provided for those behind as well as those in front of the stage. But in these days of the progression of applied science finality in their requirements was an impossibility. He had recently seen an exhibition at the Alhambra, which he wished all the members of the Council had seen. He was accompanied by the Lord Chamberlain and they there witnessed material of every description—gauzes, cotton wool, silk and scenery—subjected to intense flame and coming out of the fiery ordeal without blemish. Since that time the theatres committee had issued a circular to all theatres asking the managers if they would undertake to do the same and submit their scenery, &c., to a process at once cheap and safe, and he was happy to say that he had received answers from lessees of theatres which were practically satisfactory. They must insist upon telephonic communication between theatres and the nearest fire-station, and he thought that they should insist upon all exits being thrown open at the conclusion of every performance. He felt sure that managers would see that their objects and those of the committee were identical. When he mentioned that 400,000 people nightly visited the places of amusement in London, it would be realised how great was the task cast upon the committee in seeing that proper regulations were laid down for their safety. The Council and the managers were undoubtedly responsible for seeing that those regulations were given effect to, but in regard to panic the British public were alone responsible. He believed that as the public got to ascertain with what care the regulations were carried out and the inspections of theatres made, the less would be the fear or possibility of panic.

ANCIENT BRITISH FORTIFICATIONS.

At the Congress of the Archæological Societies held on July 10, 1901, a committee was appointed to prepare a scheme for a systematic record of ancient defensive earthworks and fortified enclosures. It was suggested that the secretaries of the various archæological societies, and other gentlemen likely to be interested in the subject, should be pressed to prepare schedules of the works in their respective districts, in the hope that lists may eventually be published. It is believed that the schedules will not only be of value to archæologists and antiquaries, but may serve to interest landowners, members of county, borough and district councils and others, in these neglected but priceless memorials of the past. As the opportunities to use their influence towards the preservation of antiquities must increase, the importance of securing the co-operation of county, borough and district councils is manifest, and their efforts would be largely directed and aided by such lists as the committee hope to secure.

The ground has been to some extent covered by the useful archæological maps of the Society of Antiquaries, and by lists of early forts recorded in some volumes of the "Victoria County Histories" (now in course of publication); both together, however, cover but a limited portion of the country, and neither work is so generally accessible as it is hoped the committee's schedules will be.

Not to court failure by attempting too much, the committee suggests that:—(1) The lists should be confined to defensive works, omitting burial barrows and boundary banks. (2) Though careful record should be made of any "finds" indicative of period of use of the forts, no effort need be made to assign a definite period of construction, excepting in those cases in which the age is beyond question, *e.g.* camps and fortified settlements of undoubted Roman origin, or enclosures of proved Neolithic, Bronze or Iron Age.

It is proposed that defensive works be classified, so far as may be, under the following heads:—(*a*) Fortresses partly inaccessible by reason of precipices, cliffs or water, additionally defended by artificial banks or walls; (*b*) Fortresses on hill-tops, with artificial defences following the natural line of the hill, or, though usually on high ground, less dependent on natural slopes for protection; (*c*) Rectangular or other simple enclosures, including forts and towns of the Romano-British period; (*d*) Forts consisting only of a mount with encircling ditch or fosse; (*e*) Fortified mounts, either artificial or partly natural, with traces of an attached court or bailey, or of two or more such courts; (*f*) Homestead moats, such as abound in some lowland districts, consisting of simple enclosures formed into artificial islands by water moats; (*g*) Works which fall under none of these headings.

In every case in which masonry is used for defence, whether wholly or in part, or as an inside wall to the rampart, or as the rampart itself, the fact should be mentioned. The existence of mounds or tumuli entirely within defensive enclosures should be noted. When a fortress is provided with more than one rampart or wall, the fact should be recorded, as also when the enclosed area is divided by transverse banks. It should also be noted whether such additional ramparts or their ditches are intermittent or continuous, and whether the entrances are direct or of a tortuous character. It is specially desired that the position of each work be indicated by noting the number of the sheet of the O. S. (6-inch scale) in which it appears, and by giving the name of the nearest town or village. Plans traced from the 25-inch O. S. maps should, if possible, be sent. Ramparts and ditches should be clearly indicated, as well as the O. S. levels, and accurate sections will be of great service. Precipices, as at Comb Moss, and abrupt slopes, as at Mam Tor, should be indicated and named.

Although lists of all defensive earthworks and enclosures will be welcomed, it is to be borne in mind that plans and sections of them, based upon personal examination, are particularly desired. Though not strictly within the scope of this inquiry, it is suggested that all Mediæval castles should be included in the schedules, since many of them originated in earthworks of Class E. Assistance will be duly recorded in the report which the committee hopes to present to a future congress of archæological societies.

ARCHITECTURAL ASSOCIATION OF IRELAND.

A LECTURE was delivered on the 26th ult., before the Architectural Association of Ireland, by Mr. E. P. Alabaster on "Recent economic and social thought on the distribution of population as illustrated by the garden city and industrial village schemes." He said that the garden city scheme was evolved under the peculiar conditions of the distribution of the English population. While these conditions differed almost fundamentally in Ireland and England, problems not of housing alone, but of defective social cohesion and undeveloped social energy occurred equally in Irish towns. Mr. Howard's scheme, alike in detail and principle, demanded sympathy and critical examination. There was no doubt that many Irish towns as industrial and social machines were behind not only towns of such a late and improved type as would be the garden city of Hitchin, but also many continental cities of corresponding size, age and wealth. Surely the time had come when, as a first step, a Society might be formed in Dublin analogous to the German Verschönerungs Societies, to foster and educate a wider sense of interest and responsibility in the town and its development, and to determine what might be done to secure a brighter, fuller and more varied town life.

By permission of the Dublin United Tramways Co., Ltd., the members of the Association on Saturday were allowed to go through the power-house from roof to basement. They were received by Mr. Sheardown, the electrical superintendent, who conducted the party over the premises, explaining the system as he went, and answering questions with the greatest courtesy. The members were much interested in the wonderful automatic method by which the coal is conveyed from the hold of the steamer, alongside the wharf, into the furnaces. Another remarkable thing is the small number of men required in the whole works, as everything seemingly looks after itself; even the enormous engines, propelling the trams all over the city and suburbs, only require the occasional attention of two or three mechanics. The President having expressed the thanks of the Association to the company, and also to Mr. Sheardown, the members dispersed.

PROFESSOR DONALDSON'S MAXIMS.

(*Concluded from page* 72.)

Timber.

CXLVII.

OAK for durability and strength, mahogany for beauty and size, fir for utility and lightness.

CXLVIII.

To obtain the greatest strength in timber, beams, joists, rafters and brestsummers, the depth must greatly exceed the width—the greatest strength opposed to the greatest strain. A joist 6 by 3 will bear twice as much if put edgewise as it would if laid flat.

CXLIX.

If the weight to be supported be in proportion to the length, then, the width remaining the same, the square of the depth divided by the square of the length ought to be the same also—*i e.* the depth of a joist ought to be in direct proportion to the length, and for stiffness the width proportionate to the depth.—*Woods.*

CL

Where the question is of a piece of timber supporting itself, the weight is as the length multiplied by the depth, and we must multiply this again by the length for a divisor. A rod of fir inch square, or a plank 10 × 1 laid flatwise, would keep quite straight with a bearing of 5 feet. A piece of timber 10 inches square would swag very much with a bearing of 50 feet.—*Woods.*

Iron.

CLI.

Eaton Hodgkinson states that in iron beams the neutral axis shifts its position as the weights on it are increased, and at the time of fracture is near the concave side of the beam.

CLII.

Wrought-iron to resist tension, cast to resist compression.

CLIII.

Cast-iron resists crushing with about 6½ times as much force as it does tearing asunder.

CLIV.

The deepest part of a beam must always be at the point of greatest strain—a condition best fulfilled by the parabola. When distributed uniformly over the whole length the form should be elliptic, but when stiffness is required the beam should be of uniform depth.—*Renton.*

CLV.

In the three sections of cast-iron beams ⊥ I I with the same sectional areas and depths, the relative strengths are 1, 1·085, 1·25, and the last beam with the flange upwards T is only 45, the strength of the beam being in proportion to the size of the bottom flange.

Gutters and Lead.

CLVI.

The bottoms of all gutters, drains and other conduits for liquids or soils should approximate as much as possible the curved form.

CLVII.

Gutters should have a fall of at least 1½ inches in every 10 feet of length; not less than 2-inch drips at every 15 feet, and be as straight as practicable.

CLVIII.

Cast-lead is best for sheets of great thickness, milled lead for thin; the former is the more pure, but more liable to inequality of substance.

CLIX.

All lead for gutters and flats should be laid perfectly loose and free to expand and contract by heat or cold; never soldered, and never in greater widths than 3 feet.

CLX

We opened these Maxims with a quotation from Vitruvius. Let us conclude the subject with a most just remark of this judicious writer (l. i. c. 1):—

"Cum ergo tanta hæc disciplina sit condecorata et abundans eruditionibus variis et pluribus, non puto posse istos repente se profiteri architectos, nisi qui ab ætate puerili his gradibus disciplinarum scandendo, scientiâ plurium literarum et artium nutriti, pervenerint ad summum templum architecturæ." (Architecture being founded upon and adorned with so many different sciences, those who have not from their early youth gradually climbed up to the summit cannot, without presumption, claim to call themselves masters of it.)

EDINBURGH ARCHITECTURAL ASSOCIATION.

A MEETING of the Edinburgh Architectural Association was held on the 27th ult. in the Association Rooms, 117 George Street, Mr. J. A. Arnott (chairman of the Associates' Section) presiding, when a paper was read by Mr. J. Maurice Arthur, delegate from the Glasgow Architectural Association, on "Some Interesting and Necessary Legal Points in Building." In the course of his paper he referred to the duties and responsibilities of an architect as arbiter and agent, and as dealing with certificates, plans, fees and contracts. He also dealt with the laws relating to buildings, including mutual gables, flats, tenements, servitudes and ground restrictions. At the close Mr. Arthur was heartily thanked for his address.

GENERAL.

A Ruskin Exhibition is to be held at the Manchester City Art Gallery, opening on March 23 next and closing on May 14, of pictures and other works of art illustrating the life and work of Ruskin, including the early Italian painters, Turner, the pre-Raphaelite Brotherhood, and also Ruskiniana, such as letters and manuscripts. The committee have offers of loans sufficient to show that the exhibition, which is being organised for them by Mr. W. C. Collingwood, will be extremely interesting.

The Annual Dinner of the Surveyors' Institution will be held at the Grand Hall, Prince's Restaurant, Piccadilly, on Friday, February 12, at seven o'clock precisely.

The Dundee Town Council have rejected the recommendation to purchase a site at a cost of 9,000*l.* on which to erect a central reading-room and free library at a cost of 11,000*l.*

A Hygienic Section has been added to the University of Jena, in which the latest improvements in lighting, heating, &c, are exemplified. The opening address was a history of lighting.

An Exhibition of the eighteenth-century porcelain of Europe is now being arranged in the Industrial Art Museum of Berlin, and will be opened on the 15th inst.

The Baptist Union have voted 60,550*l.* for purposes of church extension. In Lancashire twenty-five new places of worship will be erected.

The Mayor of Blandford (Mr. Alderman G. Iles Barnes) has announced his intention to present the borough with new almshouses. New buildings will be erected and endowed at a cost of about 6,000*l.*

Messrs. Brown & Phillip will open on the 8th inst at the Leicester Galleries a series of 130 drawings by Mr. E. A. Abbey, R.A., illustrating the comedies of Shakespeare. There will also be shown drawings by Lord Leighton, Sir J. D. Linton, Albert Moore, H. von Herkomer, &c.

Mr. Samuel P. Jackson, who recently died at Bristol, was a member of the Water-Colour Society for the past fifty years. His pictures were frequently scenes from the Thames, North Wales, or the Cornwall coast.

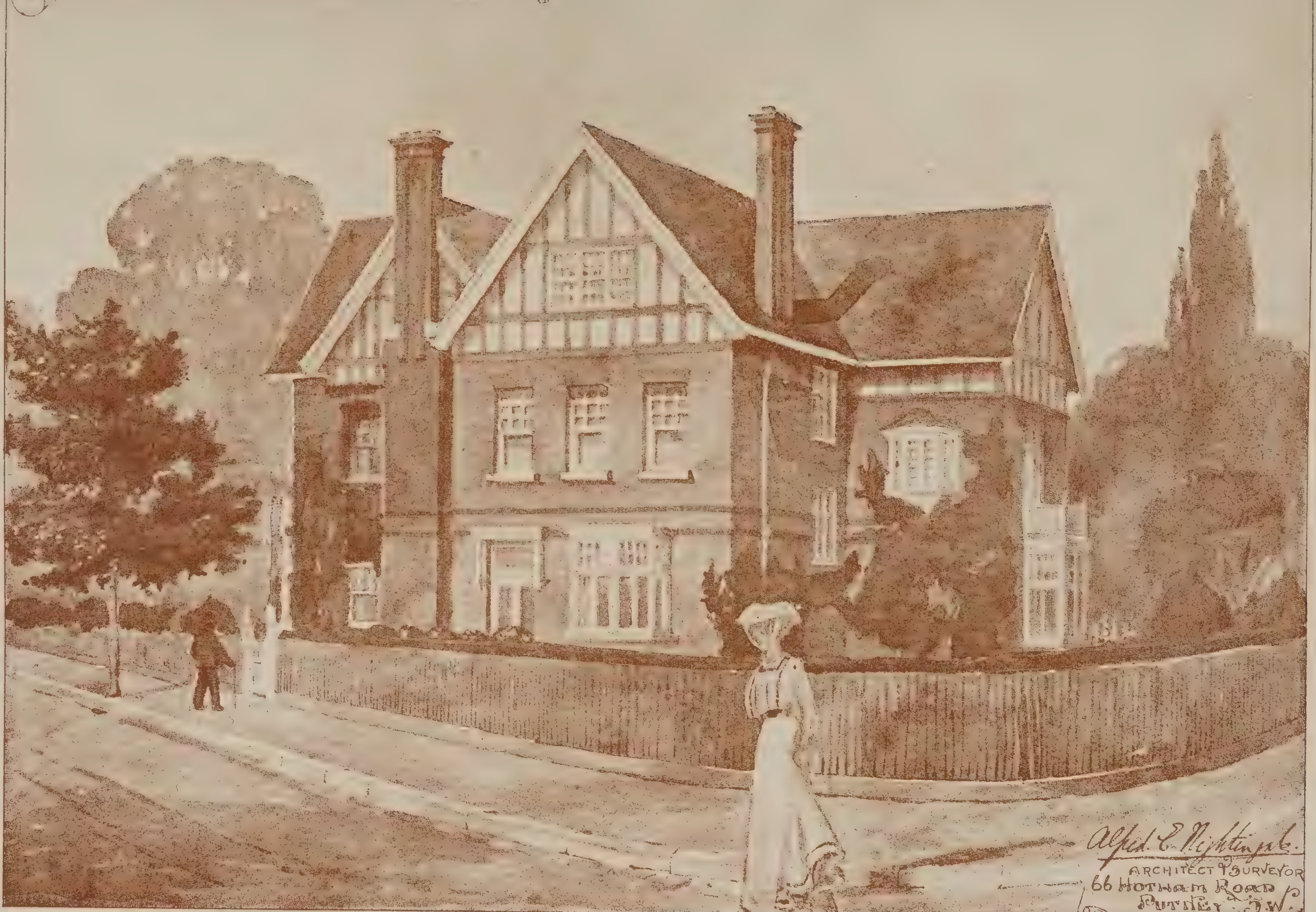
Mr. W. R. Colton, A.R.A., will deliver the first lecture of the course on sculpture at the Royal Academy on Monday next at 4 P M. His subject will be "Enthusiasm in the Pursuit of Sculpture." Dr. A. S. Murray will give the subsequent lectures, which this year will treat of Sarcophagi, Athenian Stelæ, Sculptured Pedestals, &c., and the Niobedes in Florence.

The New Railway Station at Metz will eventually be one of the costliest in Europe. In the last session 3,200,000 marks were voted by the Reichstag towards it, and this session the vote is 4,000,000. The total cost is estimated at 29,000,000 marks

The Largest Work of church restoration undertaken in the Chester diocese during the last half-century or more was formally completed on Monday by the final meeting of the committee which has carried out the rebuilding of Macclesfield parish church of St. Michael's. The church was founded in 1278, and was rebuilt in 1740 in the hideous style of the period. The present restoration, planned by the late Sir Arthur Blomfield, was commenced in 1896, and has been carried out at a cost of upwards of 25,000*l.* The foundation-stone was laid in October 1898 by the late Duke of Westminster, and the church was reopened free from debt in 1901 by the Bishop of Chester. Since then the restoration committee have carried out a number of further improvements, and a detailed statement of the accounts was on Monday presented by the hon. secretary, Mr. Frank Tylecote.

The Slade Professor of Fine Art in the University of Oxford (Mr. Wooldridge) will lecture on February 24, 25 and 26, at 3 45, at the University Galleries, on "The Rise of Pictorial Art from the Eleventh to the Fourteenth Centuries"

RESIDENCE - PUTNEY PARK ESTATE - SURREY
FOR W. H. NIGHTINGALE. ESQRE


Alfred C. Nightingale.
ARCHITECT & SURVEYOR
66 HOTHAM ROAD
PUTNEY S.W.

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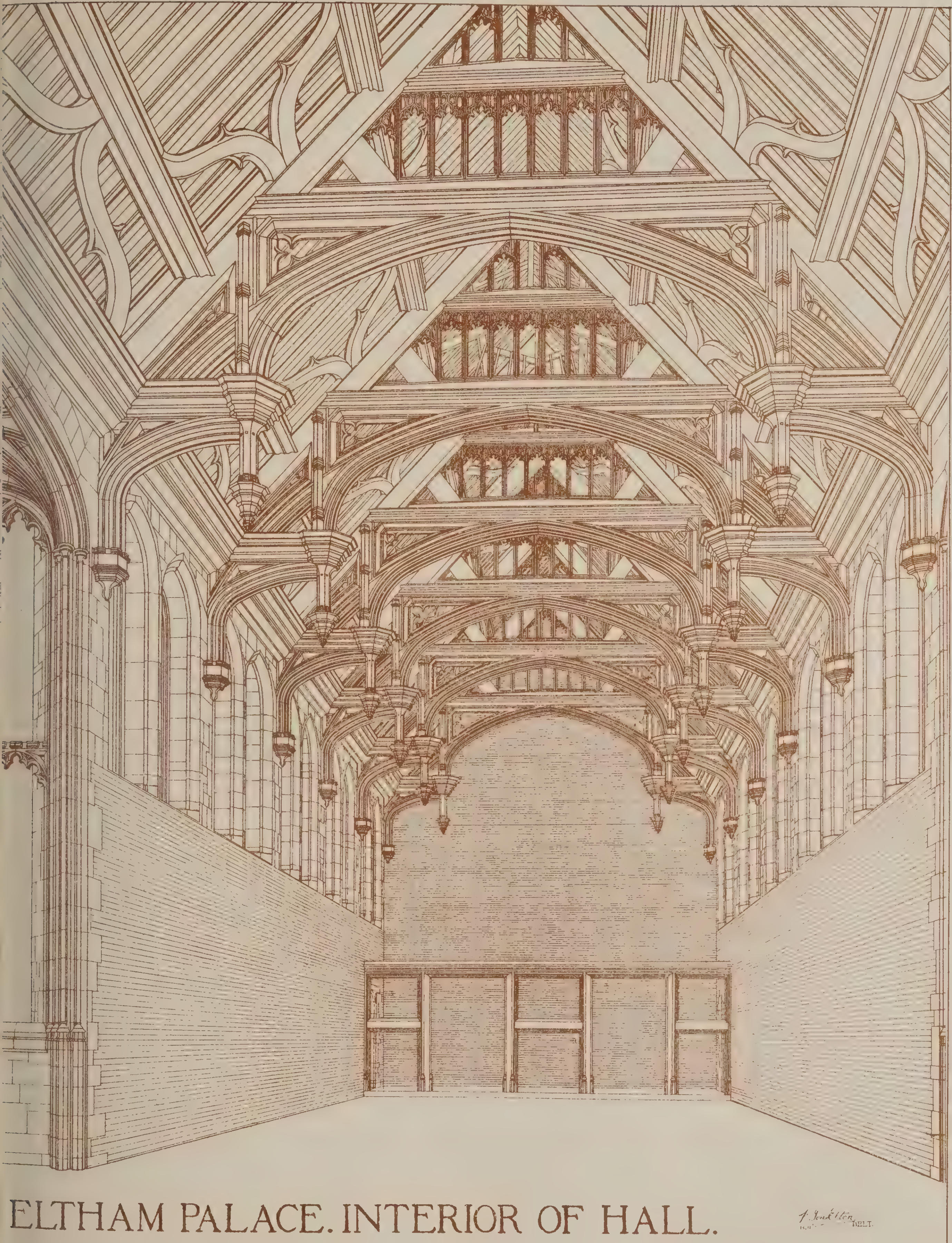
The Architect, Feby 5th 1904



ELTHAM PALACE. INTERIOR OF HALL.

DELT.

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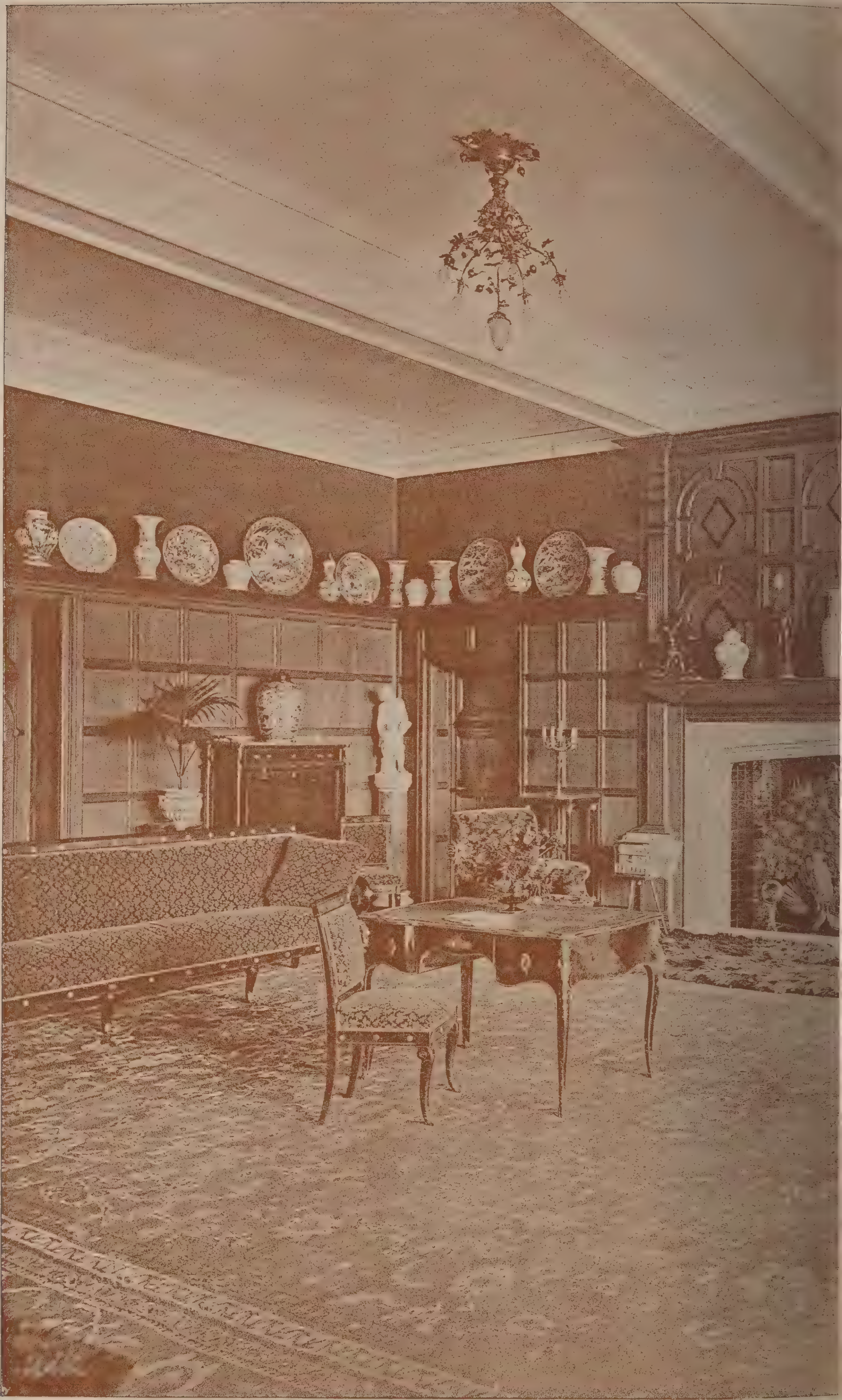

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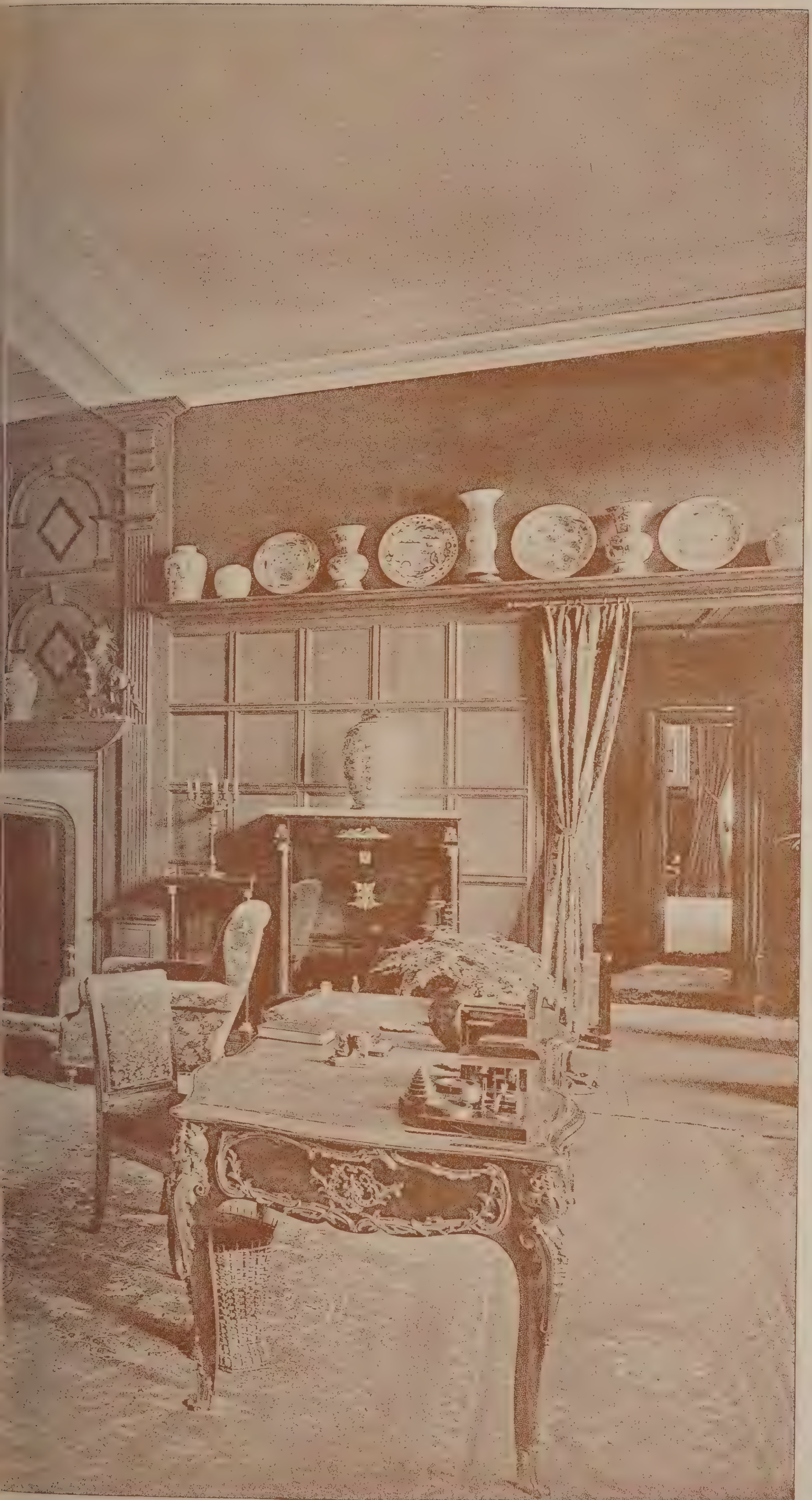
HOUSE AT BANSTEAD,

NORMAN SHAW,



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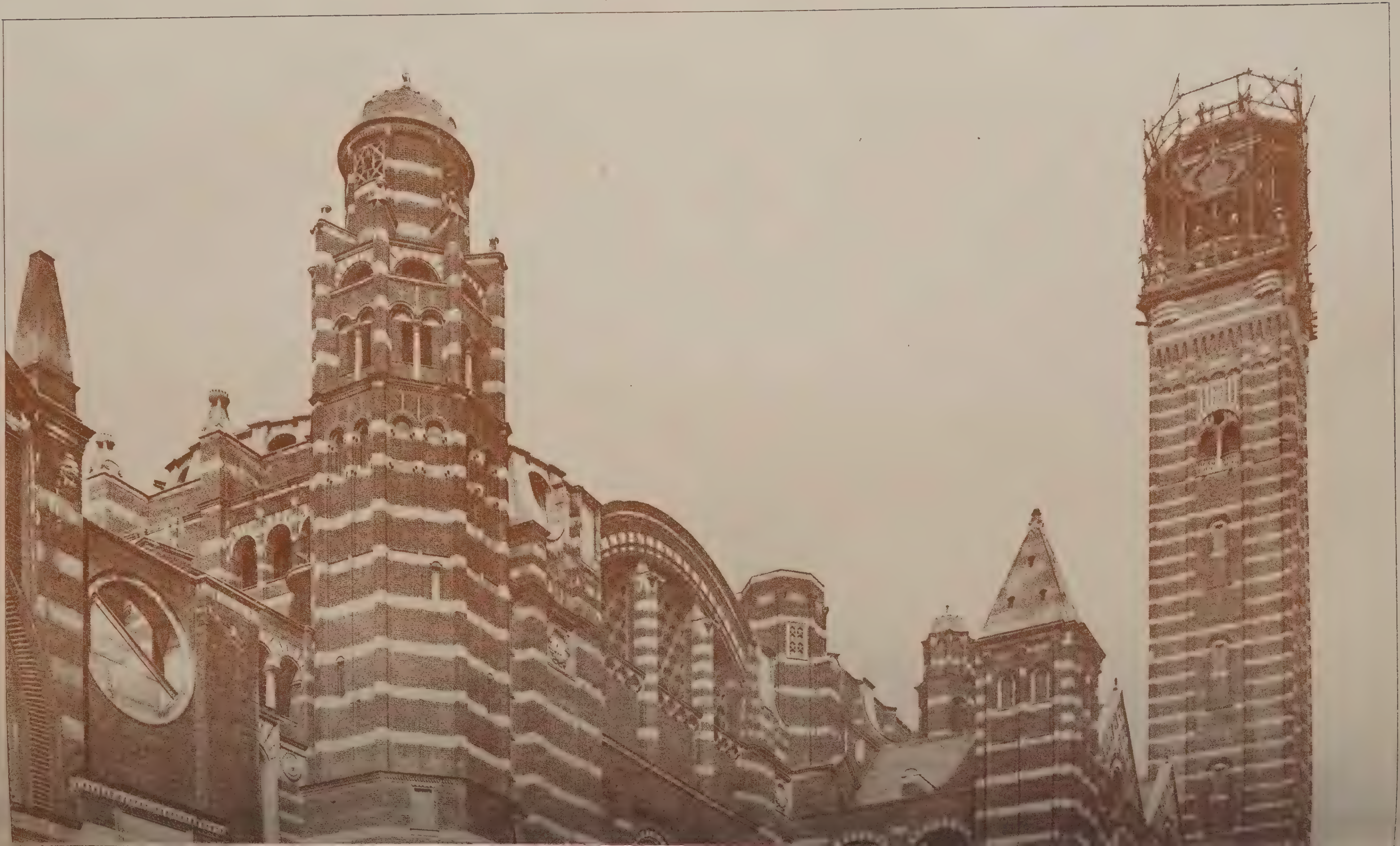

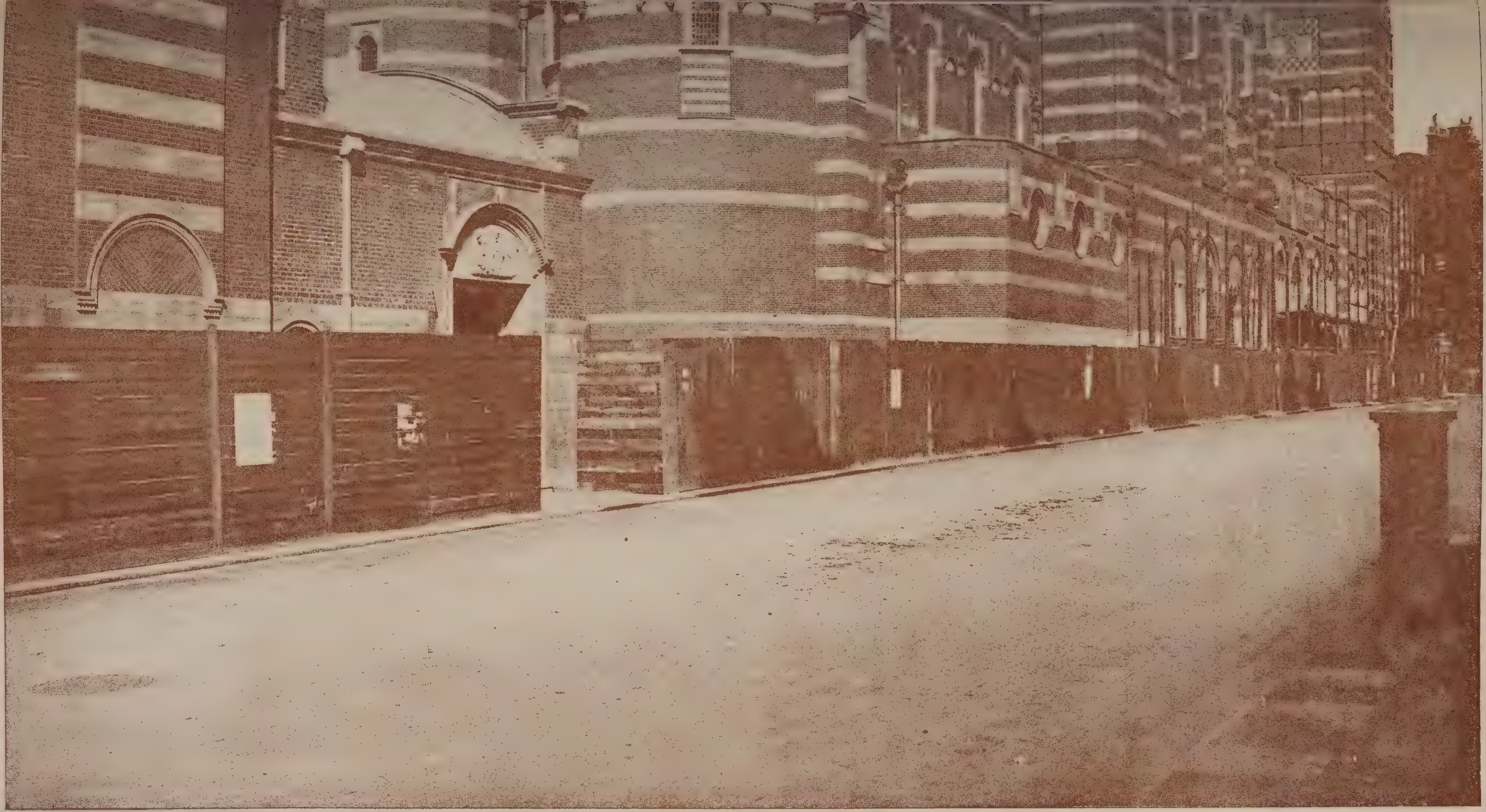

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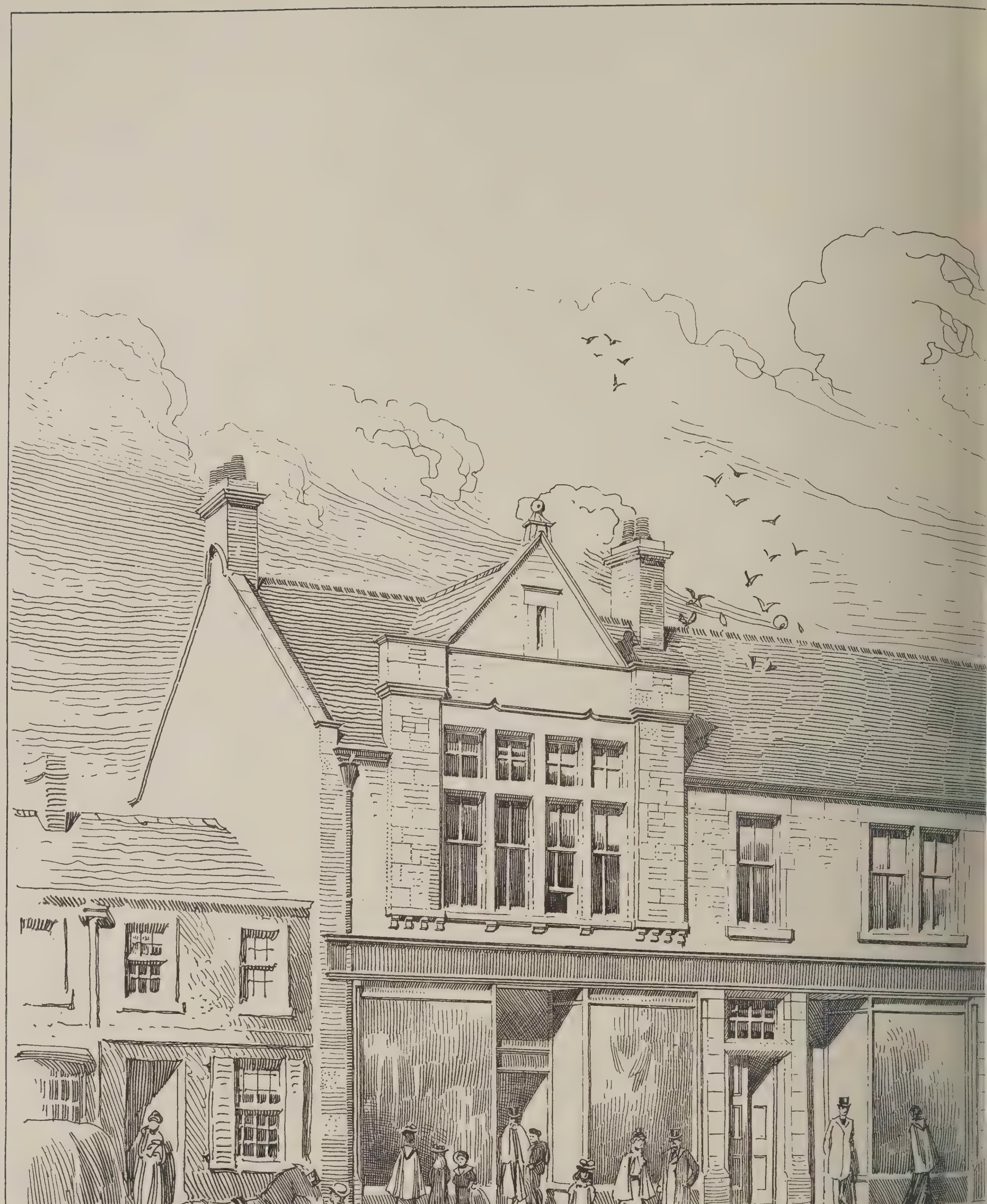
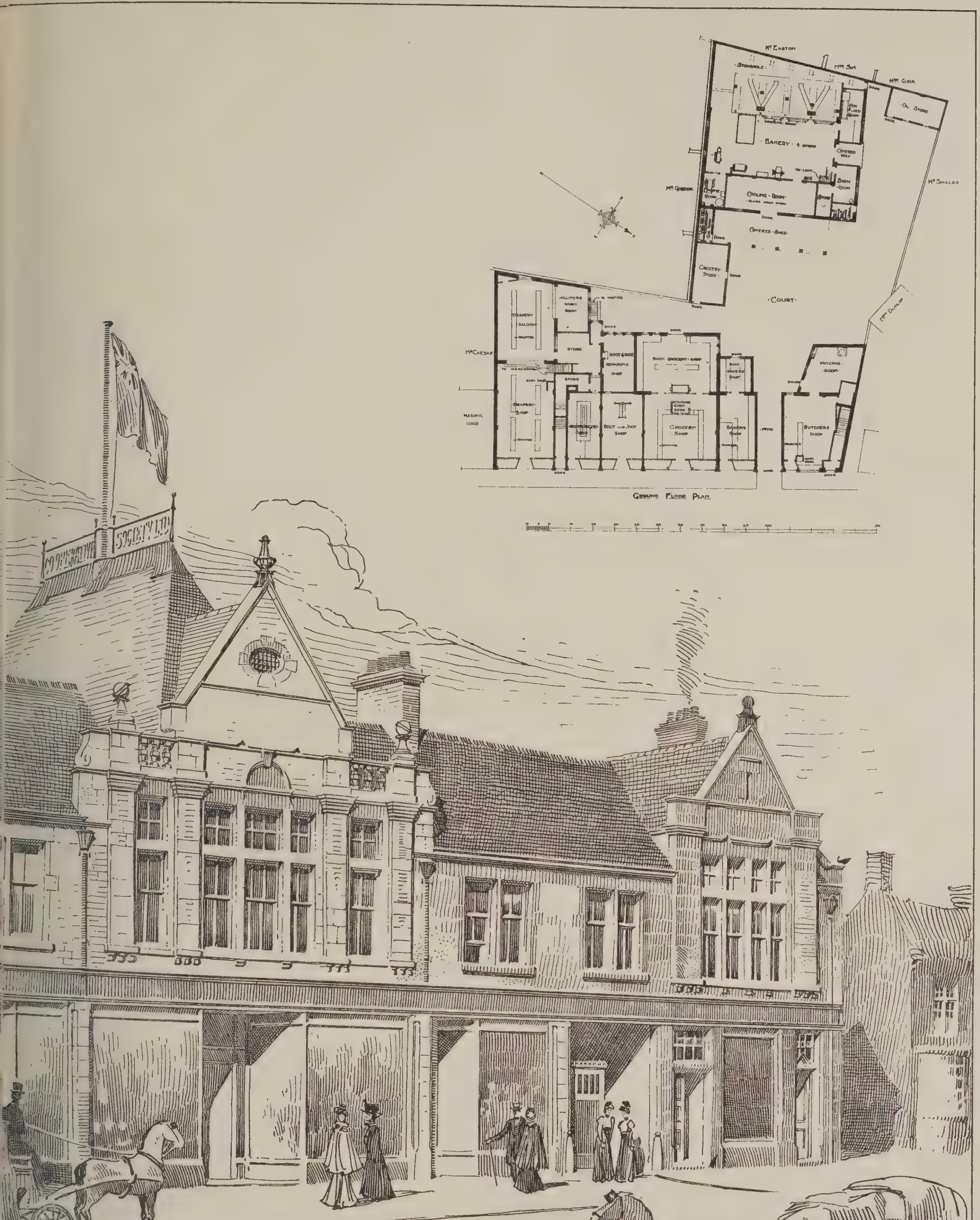
Roman Catholic Cathedral, Westminster: East Side, showing Tower.

The late J. F. BENTLEY, Architect.



NEW BUSINESS PREMISES, BATHGATE, I

J. GRAHA



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THGATE Co-operative Society, Ltd.

hitect.

The Architect.

THE WEEK.

HE notice has been issued relating to the reception of rawings for this year's exhibition of the Royal Academy. Vater-colours, miniatures, black and white drawings, ngravings, etchings, architectural drawings and all other orks under glass are to be sent in on Friday, March 25; il-paintings on Saturday, March 26, and Monday, Iarch 28; sculpture on Tuesday, March 29. No work ill be received before or after the specified dates. It is nnounced that "no artist is allowed to send or exhibit nore than three different works." Last year very few of he exhibitors who were not Associates or Academicians vere enabled to exceed that number. Some members xhibited seven works. Up to 1902 the limit was eight vorks. The change is further evidence of a desire on the art of the Council to meet modern necessities.

SATURDAY last was the centenary of the death of MMANUEL KANT, the philosopher of Königsberg, and the reatest among the numerous men of his class who were roduced in Germany. It is believed he was of Scottish escent, but as he belonged to a humble family there ould be difficulty in tracing his ancestors, although it is ossible that on his mother's side he was connected with ome of the emigrants who formed a small colony in anzig. The last words he was heard to utter were "Es t gut," and his admirers would say they were applicable his own life as well as to his doctrines. He was a great ver, he might be called a worshipper, of nature. It was asy for him then to become a lover of art, although his pportunities to study examples were extremely limited. Ie could, however, evolve buildings, pictures and statues y the aid of logic and imagination. What he says about ch works is remarkable for its aptitude. Indeed, he has een considered as one of the most authoritative of stheticians. KANT was among those who recognise e value of common sense in solving æsthetic problems. o explain why more pleasure is afforded by the gure of a circle than by scrawling lines, or by n equilateral triangle than by one with sides which ary, was not, he said, so much the office of taste as of ommon sense. The same was true in all cases where ymmetry was disturbed. On the other hand, he considered at all regularity which was rigidly mathematical was not ntirely pleasing, because there was no chance for the continuous exercise of the perceptive power. With a being ike man, he believed there could be no ideal of beauty hich did not express the moral nature. Indeed, with ANT, ethics affected everything connected with art as well s literature. He was no exclusive. A test of the beautiul, according to him, was the affording pleasure to all en; and an exhibition of taste, however rudimentary, was he beginning of civilisation. It is strange that, with so uch aptitude for art in theory, towards art as executed he isplayed some indifference. The efforts of his contemporary, VINCKELMANN, to reveal the beauties of Greek art moved im to scornful pity; and as for Mediæval art, of which e could see specimens, he looked on it as a product of wlessness and superstition. Like all great men, KANT ossessed contradictory qualities; but his works, after a entury, exert influence in every civilised land.

BUILDERS as well as agents are aware of the hesitation hown by many people to purchase or take leases of houses, wing to apprehension of the expenditure in which they nay be involved on account of paving. As a rule the work hould be done at the cost of the owner of the building state; but sometimes there are delays, and in the interval he ownership may have fallen into new hands, when esponsibility for past transactions is renounced. One case f the kind (LUMBY *v.* FAUPEL) was heard before the Court f Appeal on Tuesday. The plaintiff in 1899 granted a ease of a house in Wimbledon to the defendant for seven, ourteen, or twenty-one years Among the covenants were one "to pay all rates, taxes and assessments whatsoever which now are or during the said term shall be imposed or assessed upon the said premises or on the landlord or tenant in respect thereof by authority of Parliament or otherwise," and another to "pay and contribute a fair proportion of the expenses of making, preparing and securing all party and other walls, gutters, sewers and drains belonging to the said demised premises in common with the adjacent premises." Paving in front had been executed about the time the lease was granted, but the apportionment of cost, which amounted to 25*l.* 18*s.* 11*d*, was not then arranged. The lessor having paid the amount, sought to recover it from the lessee. An action was taken, and in the county court judgment was given for the plaintiff. In the Divisional Court the judgment was reversed, and the plaintiff appealed. It will be observed there was no direct mention of paving, and it was contended that the work was not comprised under "assessments," and only from owners could the local authority obtain payment. Their lordships adopted the view taken in SURTEES *v.* WOODHOUSE, viz. that where by a covenant in a lease the lessee covenanted that he would during the term pay and bear all present and future rates, taxes, duties, assessments and outgoings charged upon the demised premises, or the owner or occupier in respect thereof, the covenant did not apply to expenses of private street works which, under the Private Street Works Act, 1892, had become a charge upon the premises on the completion of the works before the date of the commencement of the term granted by the lease, though not payable till after that date. In the present case paving expenses were incurred in respect of the premises before the date of the lease to the defendant. Though the amount chargeable had not been assessed at the date of the lease, the charge had, on the authority of the case referred to, become a charge on the premises. It is usually found that judgment is given against a tenant, but in this case he gained, for the appeal was dismissed.

ALTHOUGH Dr. ARNOTT and others had expounded the laws of ventilation and the vital necessity of their observance, it was not until the Houses of Parliament were in course of construction that a systematic effort was made to carry out a great scheme of warming and ventilation on scientific principles. Dr. DAVID BOSWELL REID had the courage to propose about 1839 that all the chimneys in the new building should be dispensed with, and all the smoke and vitiated air from every room carried into towers or shafts in which large furnaces were to cause an upright draught. Similar shafts were to convey cold air for dispersion. Unfortunately Dr. REID was appointed superintendent in 1840 without any consultation with the architect, or any arrangements about the scope of their respective duties. Dr. REID was to have about a third of the building under his special control. Disputes arose, and JOSEPH GWILT was appointed arbitrator. He came to the conclusion that the fireproof character of the building was endangered by Dr. REID's vertical flues, and he recommended that the architect should exercise his legitimate authority, with liberty to call in experts in ventilation and heating. Among those who gave their aid were Professor FARADAY and Mr. GOLDSWORTHY GURNEY. It was not to be expected that an undertaking which opened so inauspiciously should attain perfection. The knowledge of the diversity of the systems was quite enough to make members feel that heating and ventilation were defective and to magnify the inconvenience which followed. The reports of the different investigations into the subject might be said to form a library. But the knowledge disseminated in that way has been attended with advantages. Few, however, have the courage or the time to undertake a study of ponderous Blue-books. An abstract or epitome of the volume relating to the inquiry of the select committee in 1903 is issued by Messrs. HICKSON, WARD & Co. In about thirty pages the opinions and conclusions of a great many experts are given. It is needless to remark that the information relates to other buildings as well as the Houses of Parliament. The subject is one on which we cannot receive too much information, for the vitality, not only of our legislators, but of the public in general, largely depends upon the character of the ventilation which is found in buildings which they occupy even temporarily.

IRISH ARCHÆOLOGY.

At a time when a change in the ownership of the land of Ireland is about to take place on a scale which in any other country would be considered a social revolution, all lovers of the past must experience some anxiety. Less than a century ago the ruins of Irish castles and churches suffered at the hands of people whose descendants will be the lords of the soil. The peasantry may claim to entertain an exaggerated respect for remains presumed to be evidence of the greatness and piety of their ancestors. But it is beyond question that the old buildings were made to serve as quarries, from which stone could be derived with little trouble. There were superstitious beliefs concerning the risks to be incurred by those who would meddle with sanctuaries. In spite of all the terrors which imagination could create, churches, monasteries and cathedrals were rifled. It cannot be claimed that in Ireland any more than elsewhere reverence for old masonry has increased, and it may therefore be doubted whether, under the new conditions of tenure, antiquities will be as safe as they were when the land was owned by absentee proprietors and was controlled by their agents.

It seems to us that while the fate of the survivals of a former age in Ireland appears to be hanging in a balance, great credit is due to all who take the trouble to interest the people about the value of remains which must either be prized or treated as rubbish. Works in the precious metals, or even those which are ancient although not formed of gold or silver, can always find a market. The profit derived recently from the sale of the gold ornaments from the North of Ireland to the Trustees of the British Museum is sufficient to prove how valuable some objects, although rude in form, may become. It is different, however, with ornamental forms when produced in stone. Imagination may induce the Irish peasant to believe that the old crosses in some of the churchyards and the occasional examples of carved ornament which are contained in the ruins of abbeys would be eagerly sought by English and continental dealers. That is a delusion. Not even the Americans have yet proposed to carry off either a ruin or a part of a ruin from Ireland. With all the mystery surrounding them, the round towers are still safe from speculators, and it may be doubted whether a capital, a carved panel, or even an ogham stone would fetch a price in England sufficient to pay for its carriage. The new peasant proprietors ought to remember these facts, and they may as well aid the authorities in their endeavours to preserve ecclesiastical ruins throughout the country from vandals. As long as traces of a simple church exist the land around is enhanced in interest. They serve as records of the past, and are perhaps more trustworthy than the writings and legends of the scribes. In an historical sense the ruins are valuable, although it is otherwise if regarded as marketable commodities.

The Royal Society of Antiquaries of Ireland has already rendered excellent service through the efforts of the members to explain the true reasons for taking interest in everything archæological. By recognising the modern system of judging such things there is little scope for the display of that imagination which was at one time the principal characteristic of Irish antiquaries and aggrandised whatever it touched. Legends are alluded to in the papers, but they are not put forth as if they were incontrovertible. Neither is the rough masonry placed on a par with Greek or Roman work, or the Mediæval walling of England. Nevertheless, it is found to be very remarkable when the circumstances of time and place are recollected. With all its defects the architectural sculpture need not be taken as overturning Mr. Wyndham's theory as to the Irish instinct for art and the great work the people are destined to perform in the future as creative artists. It is possible to view the ancient attempts in a kindly spirit, but it would be unwise for the students in Irish art schools to accept the productions of their forefathers as models for imitation.

Another advantage to be derived from the activity of the members of the Society is that the different races who have lived and left traces of their lives in Ireland are treated with the impartiality which belongs to science. one of the native poets wrote:—

> Here came the brown Phœnician,
> The man of trade and toil—
> Here came the proud Milesian,
> A-hungering for spoil;
> And the Firbolg and the Cymry
> And the hard, enduring Dane,
> And the iron Lords of Normandy,
> With the Saxons in their train.

In the last number of the Journal of the Society we s signs of the recognition of the multiplex interest afford by Irish archæology. The first paper is on Raleig House at Youghal, for the great adventurer was able secure 42,000 acres of Irish land. The article Mr. Orpen is suggestive of the spirit in which Iri antiquities are now studied. It shows how weak is t documentary evidence on which the belief was found that Raleigh lived in the house erected in 1464 for t Warden of the Collegiate Church. But the tradition more prized, and besides, the house bears a resemblan "to an old English mansion, or even more particularly a Devonshire manor-house of Elizabeth's time." Anoth writer, indeed, points out that a very strong exteri similarity exists between the house at Youghal and Hayes Farm, in Devonshire, where Raleigh was born.

The second paper carries us back to a time that w more than a thousand years prior to the arrival of Raleig It is entitled, "Notes on the Antiquities of Ardmore," a is by Mr. T. J. Westropp, M.A., who is one of the m zealous of archæologists. Ardmore is about ten miles fro Youghal, in the county of Waterford, and is usually cluded from the itineraries arranged for excursionists. B it contains a round tower of a peculiar shape, one of t few selected by Mr. Fergusson as types of those structur According to him, it was evidence that the towers were, Petrie concluded, of post-Norman construction. said:—"It is of excellent ashlar masonry throughout, a is divided externally into four storeys by string-cours which do not, however, mark the position of the floo inside. Its mouldings and details lead to the presumpti that it is nearly coeval with Cormac's Chapel, Cashel, a that consequently it must belong to the twelfth centu It stands within the precincts of the rude old church, a when explored not long ago the skeletons of two perso were found below its foundations, placed in such a mann as to lead to the inevitable conclusion that it was a pla of Christian burial before the foundations of the tower we laid." The projecting string-courses form the peculiari we mentioned, and they have been regarded as a miniscence of ancient wicker-work. They are not improv ments, for they disturb the continuity of the outline. T tower retained some evidence of being once the belfry of church, for in 1746 there were three pieces of oak remai ing in the top storey for the hanging of a bell, and groov for two bell-ropes in the door-sill. There was also a cro on the top, which was accidentally shot away by a ma aiming at a chough.

Far more ancient than the tower or the building called t "cathedral" is the oratory of St. Declan. He was bo in A.D. 347, and was therefore somewhat older than his co temporary St. Patrick. Many legends are associated wi him. One is that the round tower, which is 95 feet 4 inch high, was constructed by him in three nights, each suspe sion of operations being marked by a string-course. It w to be carried infinitely higher. The curiosity of a woma who wished to know when it would be finished irritate the builder, and he finished it abruptly. A place th originated under such circumstances was likely to be attra tive to recluses, and it undoubtedly became an importa monastery. At what period the abbot was recognised as bishop is unknown, but the Bishop of Ardmore was o of those who swore fealty to Henry II. in 1170. The o oratory of St. Declan was preserved, and it still continues a condition indicating a succession of repairs.

Considered architecturally, the cathedral of Ardmore a more noteworthy building. While the oratory measur only 13 feet 4 inches by 8 feet 9 inches, the nave of t cathedral is 72 feet by 24 feet 2 inches, with a chanc 34 feet 8 inches by 18 feet 3 inches. Mr. Westrop peaking of the west front, on which sculpture has been mployed, says:—"It is a remarkable composition. It onsists of thirteen little round-headed recesses, about 3 feet igh by 20 inches wide; these are shallow and divided by ilasters, with (so far as I can judge from their worn emains) plain capitals and bases, resting on a string-ourse; cutting into the latter are two larger semicircular rches, and the spring of a third to the south, where no rther trace of a panel now remains. These mouldings re chamfered underneath in the upper section; in the ower they have a hollowed edge common in other parts of e nave." It is surprising to find sculpture in such an ut-of-the-way locality, and although humble in quality and uantity, if compared with English examples, the attempt as courageous. The subjects cannot all be made out, for the estroyer has operated on the figures; but there is no doubt he Temptation, the Crucifixion, the Judgment of Solo-on and the Adoration of the Wise Men were introduced. ne panel, showing a pair of scales and little figures olding on below is assumed to be devils tampering with he scales used for weighing souls on the Day of Judg-nent—a subject which is met with in some of the Irish rosses as well as in much Mediæval work. It was ointed out by Sir Digby Wyatt that the same effort of the Enemy was introduced by Torrigiano on the tomb of Henry VII. in Westminster Abbey. The cathedral hows the work of several periods. The transition from Norman to Gothic appears in the chancel arch with its illars, while the east window is late Gothic. The capitals of the chancel arch are in better style than is usual in imilar work in Ireland.

Ardmore also contains a pair of ogham stones. There was a third, but it was removed to the Dublin Museum. Apart from their interest as ancient inscriptions they are curious, as indicating progress in archæology as well as the difficulties of interpretation. When the two enthusiasts, Petrie and O'Donovan, were making an inventory of ancient remains in connection with the Ordnance Survey they were indifferent to oghams. Some justification existed for scepticism, for the characters were like the chalk scoring on alehouse doors. One of the stones at Ardmore received the following interpretations of the same set of characters:—"Fishing with spears or tridents;" "Herein lies Gol, the renowned sorcerer;" "Gog, the distinguished, died." Some years afterwards there was another interpretation, "Lugudec, who died in his lordship on a day he was fishing, is buried in the grave." Another version was that "he contracted his sickness in water." A different version was, "Lugud died. He was a horseman on the field of battle." A paper on the stones by Professor Rhys in the same number investigates the subject at some length, and he considers the inscription should be rendered, "The burial place of Dolat, rural bishop, a son of the kin of Nia Segamon." From the importance of the clergy, the "scores" are likely to refer to some ruler of Ardmore. There is room for further versions should ambitious scholars pay a visit to the place.

A castle also existed at Ardmore which stood in 1585, but it was permitted to fall into ruin and the materials were utilised for building cabins in the village. Various other fragments of the past remain, and, indeed, any one wishing to employ his holiday on diversified subjects relating to life in remote times could not discover a more eligible spot than Ardmore. For at least 1,500 years it has been celebrated. Standing close to the sea it may have excited the reverence of mariners as well as landsmen. The production of so many panels in the cathedral must have been expensive, for the carvers were likely to have been brought from a distance. They prove, however, that Ardmore was considered a true sanctuary. The ruins are now under the protection of the Commissioners of Works, but in so remote a district the power of the Board may be doubted. It is consequently to be desired that such notes as Mr. Westropp has written will not be without their effect on the inhabitants, and it would be well if copies were preserved in the village where the people could study them.

Lady Betty Balfour opened on the 4th inst. the Victoria Memorial Institute at Potternewton, Leeds The building has cost about 4,000*l.*, and Mr. Percy Robinson, of Leeds, is the architect.

MOSAICS.

THE report of Professor Church on the chapter-house at Westminster suggests the difficulty of dealing with examples of Mediæval frescoes. The fragments of fourteenth-century work found on the stone arcading were in a sadly decayed condition. The application of baryta-water was tried in the hope that it would penetrate behind the paintings and consolidate the ground. That hope was only partially realised. In another portion of the building it was discovered that Sir Gilbert Scott had applied varnish to the paintings in the effort to preserve them. A liquid of a different kind had to be applied in those places. Most of the paintings in English Mediæval churches were executed in tempera, and the colours introduced were of the commonest kind. In the embellishment of screens no doubt oil colours were used, and consequently there is a greater diversity. But in such a climate as ours a duration of five centuries for a wall-painting would seem to prove that simple methods are often the most conducive to endurance. It is only necessary to contrast the examples met with in various churches with the ambitious works of which we see the remains in the Houses of Parliament in order to be convinced that traditionary recipes can sometimes excel the combinations of science.

Sooner or later tempera and other wall-paintings are destined to decay. That result must have been witnessed in former times, and probably led to the employment of mosaic. It is now impossible to determine whether the earliest class of mosaic was employed vertically or horizontally—in other words, whether it was first seen in pavements or in wall-decoration. If we suppose it is merely a derivative art, the question then becomes whether it was imitated from carpets or from hangings. Both kinds of textiles were generally used in the East, and, as far as is known, it is there mosaic originated. We cannot believe, with certain writers, that painting suggested mosaic, for its swiftness of execution would not compare favourably with the laborious process of fixing tesseræ. There certainly existed some analogy between the work of the weaver and that of the mosaicist not only in the gradual execution of a design, but in the resemblance of the elements. In both the absence of true curves is unavoidable, for the curved lines are made up of many little straight lines. We can imagine, from what is recorded in the Bible, that mosaic pavements were familiar to the Hebrews as well as to other Eastern races. But we cannot conceive how a lively people such as the Greeks, who delighted in representing important subjects by a few outlines on their vases, could have approved of the countless repetitions of small blocks which were necessary to make up the smallest mosaic picture. We read of Hieron of Syracuse having the whole of the "Iliad" suggested by a series of mosaics, and according to Pliny it was a Greek who introduced mosaic into Italy. The fact, however, remains that in Greece itself the art was not held in admiration.

If we regret the absence of permanency in Mediæval paintings and wish they had been executed in some other manner, with more reason it is to be deplored that we are without records in mosaic of the designs of the great Greek painters. It is almost impossible for a modern critic to accept the statements of the ancient writers about the splendour of pictorial art in Greece The evidence is too insignificant to secure credibility. How are we to realise what was admired in the Lesche of Delphi or the Pœcile Stoa at Athens? Mosaics would at least have indicated to us the power the artists possessed in composition, although the forms and the colouring would be imperfect. We have one example in the *Battle of Issus.* But the genius of the people was not in favour of a class of work which required so much patience and time. It has been calculated that a pavement uncovered at Palestrina must have needed six or seven millions of marble tesseræ, for in the early days natural materials alone were used. To cut and lay such a multitude of little blocks would seem to be almost too tedious a task for slaves. In our own day it has been recorded that the whole life of a workman was occupied in the production of one picture in the Vatican factory, and four men were engaged during eleven years in copying one of Raphael's pictures.

Unlike the Greeks, the Romans appear to have carried their admiration for mosaics to excess. They may have had a host of native artificers as well as slaves who were satisfied with work exacting little thought. Mosaics were everywhere. At the entrance to a house a visitor was either welcomed with a *Salve*, or, in jest, was warned by a *Cave canem*, with the figure of a chained and harmless dog. In the Pompeian houses we see that simple figures of flowers or loaves, which in any other country would be dashed off with a few strokes in colour, were executed in a manner destined to endure by means of mosaic. There seemed to be no limit to the applicability of the process. From inscriptions of single words or symbolic letters up to immense landscapes and history pieces the tesseræ were employed and were found to answer.

The Pompeian mosaics which have survived are themselves sufficient to reveal to us the degree of favour in which that mode of decoration was held. We see a lion chained to a rock with Cupid mocking him, as an allegory of how strength can be conquered by love. We see a skeleton with a wine cup in each hand which was not intended as a warning against intemperance, but as an incentive to eat and drink, for to-morrow death might come. We see birds stealing jewels from baskets, vanquished and victorious cocks, comic theatrical performers, landscapes with animals, festoons, masks, gods and goddesses, fishes, dwarfs, graces, sirens and copies of various pictures. If a live ass is better than a dead lion, it may be said that those ancient mosaics having endured for many centuries are more valuable, notwithstanding their defects, as memorials of Roman life than great masterpieces of painting which were the admiration of Pompeian amateurs.

It was the enduring quality of mosaic which at a subsequent period recommended it as the best medium for important records. According to tradition, when the church of St. John Lateran in Rome, in one sense the most important of all in Christendom, was consecrated, a portrait of CHRIST was executed in mosaic in order that until time became eternity Christians should be able to realise the features of their Founder. The resolutions arrived at by the early Council of Ephesus were commemorated by letters of mosaic at the desire of SIXTUS III. JUSTINIAN and his consort employed the material to preserve likenesses of themselves and their councillors. Indeed, it is evident that at one period mosaic was considered preferable to marble, and was utilised for purposes which in an earlier age were left to the sculptors. It must also be allowed that mosaic once exercised an evil influence on architecture. In the early Christian days it was not difficult to pillage pagan buildings of their capitals, columns and as much dressed masonry as was coveted. Then it was only necessary to set up a mosaic picture or inscription and the spoils appeared to be transformed into new triumphs of the mason's art.

A great many of the early Roman mosaics, as they were intended for pavements, were of simple colours. Some, indeed, were restricted to black and white tesseræ. But as soon as mosaics were applied as wall decoration the makers endeavoured to compete with painters in the variety of colours. Gold was introduced to an extent that was excessive. Sir L. ALMA-TADEMA, as if he envied them, told the scene-painters lately how they were able to play with real light and could produce impressions far beyond those attainable in ordinary pictures. Gold served as a glamour with mosaicists. Although centuries may have dimmed its brilliancy, the effects have still a dazzle that no oil-painters can equal. The popular idea of Heaven as a golden city was in that way aided, and many a building which otherwise would appear gloomy became attractive in consequence.

In the course of ages numberless examples of mosaic were probably destroyed. But from the triumph of Christianity until a comparatively recent period mosaic has been mainly an auxiliary in church decoration. This is a remarkable circumstance which it is not easy to explain. When we consider the effectiveness as well as the endurance of the art in proper hands, there would seem to be numerous opportunities for its use as a means for the lasting adornment of secular edifices. It may now seem to be unaccountable that in such a building as the Houses of Parliament, where gilding and colouring were to be employed to aid the sculptor's art, no space was reserved for mosaic. Even the backs of the niches were to be "painted in dark colours, such as chocolate, crimson or blue, or they might be of gold, for the purpose of giving effect to the statues." The members of the special Fine Art Commission, although unhampered by any misgiving about fitness or correspondence between decoration and architectural style, did not suggest any use for mosaic. It might have been a lost art. It is true attempts were afterwards made to adorn the hall with three or four mosaics, but there was so much opposition to the granting of the money needed for the purpose, we might well imagine that members of the House of Commons were apprehensive that their hats at least would be injured by the falling of tesseræ. The most complete examples we can show in England are those in the South Kensington Museum. HENRY COLE was successful not only in overcoming opposition, but in persuading artists to produce figures which would present no difficulties to the humblest of visitors. The decorations in St. Paul's, on the contrary, are mysteries to the multitude, who may think it is for their spiritual advantage to have their religious ideas perplexed.

In other countries there is not the same indifference. In France an effort was made at the time of the First Revolution to organise a school of mosaics. The Louvre contains a pavement or two produced by the staff. Notwithstanding those early efforts, some grounds exist for the Greek inscription to be seen in the Opera House in Paris, which states that decorative mosaic was there employed for the first time in France for the ornamentation of one of the foyers. The French are not satisfied with importing tesseræ from Murano and Venice, for support has been given to M. MARTIN, a chemist, to manufacture them, and in some cases with success. The art is well deserving of encouragement. The great frieze of the Albert Hall has withstood the winds and rain and atmosphere of London for thirty years. The pediments in the Albert Memorial continue to be remarkably brilliant, and wherever experiments have been tried for exterior ornamentation on a smaller scale they have been equally successful. The art is most interesting, and it is one of those which is rarely disappointing in its effects. It is adapted to all styles of architecture and all classes of building. But we suppose it must be considered as subservient to the dictates of fashion, which now finds more to admire in other modes of ornamentation.

USHER HALL, EDINBURGH.

THE Lord Provost's committee have given general approval to a plan, prepared in the city architect's department, for the construction of this building on a site between the School Board and City Parish Council offices in Castle Terrace, at a total probable outlay of 145,000*l.*, this sum to include the cost of altering the roadway, making a retaining wall, the provision of an organ, some additional furnishings, and, of course, the site itself, &c. The present value of the late Mr. Usher's benefaction, it was stated, is 120,000*l.*, so that other 25,000*l.* will be necessary to complete the undertaking, but it is only right to point out that against that there is to be put the very considerable revenue which is likely to accrue from the use of the hall. The committee resolved to recommend that the Council should empower them to procure estimates and proceed with the work. The scheme that has been adopted, it should be explained, says the *Scotsman*, does not include the acquisition of either the Lothian Road Board school or other property in the immediate neighbourhood that has been previously spoken of. When the plan was last before the committee, it may be recalled, the main entrance was shown approached by a flight of steps, which might be of either of two heights, according to the level upon which the street floor will be planned, and having on each side broad pillars, on which groups of statuary could be placed. It is now proposed to reduce the number of steps from ten to six. Further, it may be recollected that a feature of the plan is the appropriation of the portion of Castle Terrace Gardens entending from Cambridge Street to Cornwall Street for the purpose of forming a terrace in front of the hall, by building a retaining wall, with certain ornamental features, to King's Stables Road, and filling up the sloping bank on its inner or south side to the level of Castle Terrace. On the plan this terrace is shown decorated with rows of ornamental lamps and trees, and architecturally it forms an admirable base for the hall.

The Incorporated Clerks of Works Association will hold their twenty-first annual dinner on Monday, February 22. Mr. Edwin Hall, F.R.I.B.A., has consented to preside.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last, Mr. Arnold Mitchell, vice-president, in the chair.

The following were elected as members:—Messrs. L. F. Jones, W. S. Gorringe, W. Acworth, W. W. Scott-Moncrieff, H. T. Merriman, J. S. Courtland and J. L. Fouracre.

It was announced that 750*l* had been bequeathed to the Association by the late Mr. H. Saxon Snell for the foundation and maintenance of a triennial scholarship.

Mr. W. A. HARVEY read the following paper on

Cottage Homes.

The subject is one with which my audience must already be well conversant, and in submitting to you for consideration observations resulting from my own experience it must not be imagined that I regard them as being pregnant with originality, or yet that I presuppose the ignorance of my listeners. It is my intention, as will probably have been anticipated, to take as the reference basis of my remarks the project in which I am directly interested. I refer to the scheme of the Bournville Village Trust, whose architect I have been since its inception.

By way of introduction, let me briefly state that the village of Bournville, which lies in the north-east of Worcestershire, four miles south-west of Birmingham, is of quite recent development, nearly the whole of it having been built since 1895. The estate, which is now administered by a trust, owes its existence to Mr. George Cadbury, of Northfield, the senior member of the firm of Cadbury Brothers, Limited. Mr. Cadbury's object is an endeavour to alleviate the evils which arise from the insanitary and insufficient housing accommodation supplied to large numbers of the working classes, and to secure to workers in factories some of the advantages of outdoor village life, with opportunities for the natural and healthful occupation of cultivating the soil. When the village was handed over to the trustees in December 1900 something like 350 cottages had been erected. Since then building has been steadily proceeded with, the total now being over 500. Most of those built before 1901 have two sitting-rooms, a scullery, three bedrooms and the usual conveniences. Larger ones of later date have four, five and six bedrooms, and a bath-room supplied with hot and cold water. During the last two years several cottages have been built with one large living-room instead of two smaller ones, a scullery with bath sunk in floor or disposed of in other ways to economise space, three bedrooms and in some cases an attic. Others are now built with two bedrooms for small families

There is an average garden space allowed each house of 600 square yards, which is found to be as much as one man can attend to. The rents range from 5*s.* 6*d.* a week, rates included, to 12*s.*, rates not included, and there are a few houses of a larger class at higher rentals The village is served by Birmingham with gas, water and sewers, the rates being about 6*s.* 6*d.* in the pound, exclusive of water rate.

Although much has been said of higher percentages, 4 per cent. on the outlay is the most that should be expected in building houses of this class, the same meeting the demands both of satisfactory accommodation and artistic appearance. The profit on the outlay is often exaggerated, and it might be well to point out that 6 per cent. gross will rarely pay 4 per cent. net, as is often stated. It is true that a greater profit may be made by erecting houses in endless rows to an unsightly stock pattern but I strongly urge that the only legitimate way of diminishing cost is by the avoidance of unnecessary ornament and by the advancing of a pleasing simplicity. The jerry-builder introduces considerable ornament in detail, which, though neither necessary nor beautiful, must yet cost him something, and it is in attention to such matters as this that the difficulty may be largely overcome.

In building a street of houses the expense would, of course, be very great if, to get variety, we employed a different plan and different details for each house. We have to have recourse to other methods. In the case of fifty houses I might suggest getting as many details, such as windows, doors and doorframes, the same (or, at any rate, half of one kind and half of another), and should avoid the monotony by a variation of the disposition of these features. An extensive elevation may also be made interesting by the treatment of a porch here, the addition of a bay window there, and the use of rough-cast somewhere else. Go in for the most irregular building line you possibly can. In a block of three cottages a pleasing effect is gained by projecting or recessing the middle one, or putting long way on, and so forming a forecourt in front. If it be resolved that a row of houses shall have ornament to make it attractive, I would suggest that something not too small and crowded be distributed here and there—say on the first and third houses—the unadorned ones affording relief to the others. I might mention that if an architectural village had been the main object at Bournville, more money had been spent on detailed enrichment. After all, let money be sown lavishly, and in this springtide revival of architectural art Utopia itself may spring up.

The idea of a cottage home that I have always endeavoured to keep in view is one in which beauty is based on utility—a principle which should guide all art, it is true, but which, in order that a plebeian and vulgar taste for shoddy display may be gratified, has been too often violated—and though with the artisan class it is perhaps most difficult to gain this end, an adherence to it must sooner or later tell. On the whole, my experience at Bournville has been that the residents in the cottages have shown a remarkable readiness to catch the idea and spirit of a homely simplicity, and it is evinced in such details, for instance, as their manner of furnishing the rooms, in their adopting suitable and artistic curtains to the casement windows, &c. Another point I have endeavoured to keep in view is the advisability of building more permanent dwellings than those we so commonly see erected in these rows. Many of these are the work of a speculative builder, who sells as soon as the slates are on to one who will probably sell again, someone in the end suffering considerable loss. To say that care should be taken to well ventilate floors is almost a platitude; nevertheless, this is sometimes overlooked in the effort to save a trifling expense, in spite of the fact that in the long run, when dry-rot sets in, a considerable expense is inevitable. There should be a bed of concrete over the whole site, and plenty of air bricks should be employed to thoroughly ventilate ground-floor joists, and the same (or whatever groundwork is used under joists) should be, if possible, above the level of the ground round the house. This prevents any chance of water collecting under floors. There is an increasing demand for a substantial home, and in time—let us hope soon—it will be such that must be supplied.

My object being to deal with cottages, the cost of which is from 175*l.* to 750*l.*, I take first the accommodation of one of the smallest types, erected in blocks of four.

Ground Floor.—Living-room, 13 feet 6 inches by 12 feet 6 inches; scullery, with cabinet bath, 10 feet 6 inches by 7 feet; larder under stairs; coals and water-closet; small paved yard; lobby; size of garden, 600 square yards.

First Floor.—Front bedroom, 13 feet 6 inches by 12 feet 6 inches; back bedroom, 16 feet 6 inches by 7 feet; small linen closet. Total cost, including laying-out of garden and all extras, 175*l.* per house. Estimated net return, 7*l.* per house: a return is therefore obtained of 4 per cent. Cubical contents, 8,023 feet cubic per house at $5\frac{1}{4}$*d.* per foot (in 1903) = 175*l.* At Bourneville 8 per cent. gross yields about 4 per cent. net.

This type is of the smallest possible dimensions and simplest construction; the roof runs uninterruptedly from end to end, and the building throughout is of a very inexpensive character. In this class of design every simplicity should be studied, unnecessary roof complications should be avoided, and the chimneys, in order to diminish trimming, flashing, &c., grouped together and brought to the highest point of the roof to avoid down-draughts and cold, smoky flues. It is not essential that each bedroom should have a fireplace if efficient ventilation is provided. Nooks and recesses doubtless make a room interesting, but in small cottages of this kind they are too expensive to introduce, and instead the best must be made of materials, colour and proportions, if we are to make 4 per cent. on outlay.

A very important point to emphasise regarding cottages of all sizes is compactness of plan, and there should be an aim at getting wall lines as long and as unbroken as possible. Where possible all outbuildings should be arranged under the main roof, otherwise when cottages sre semi-detached one of them must suffer through the projecting roof of the other. This precaution also admits of a better view of the garden from the living-rooms, and the glimpse of green is no small consideration in the building of cottage homes. Care should be exercised in the planning of corner cottages to avoid the yard being exposed to the road, and where necessary it should be enclosed. The flaunting pageantry of the week's wash may be meet perhaps for the eyes of the matron of the tub, but for the public it is generally considered an eyesore. Aspect and prospect in small and large houses alike should have careful attention, and it should be remembered that the position of the larder, which, when possible, should be north or north-east, is of no small domestic importance.

Another type is as follows:—

Ground floor.—Living-room, 17 feet by 16 feet, with inglenook and bay; scullery, 13 feet by 10 feet 6 inches, having bath sunk in floor; larder, 5 feet by 6 feet; coals, water-closet and small paved yard; verandah in front.

First floor.—Bedrooms, 17 feet by 13 feet 6 inches, 8 feet 6 inches by 9 feet 6 inches and 13 feet by 8 feet 6 inches; small box cupboard; attic, 16 feet by 17 feet. Total cost about 300*l*.

In view of the advantage of one spacious and healthy living-room over the parlour plan, this class of cottage has been largely introduced at Bournville. The dweller in this home must get far better value for his rent than that artisan of the suburb of mushroom growth in his cramped villa. Is it not piteous to think that the front parlour, silent and musty during the week, should know the amiable chatter and cheerful blaze of the fire but for six hours on the Sunday? A pleasing writer (Mr. G. K. Chesterton), writing not long since upon a debate in the London County Council upon the housing committee's report, urged that this drawing-room, with its wax fruit and other gimcracks, represents the art instincts—or, as he called it, the religion—of the artisan, and he became eloquent in denouncing its abolishment. Surely he was in jest. For could not a corner in his more spacious room be yet preserved for such treasures, and the tinkle of the hymn tune be heard to greater advantage withal?

I consider that the heights of 8 feet 6 inches for ground floor and 8 feet for bedrooms are quite adequate for the average cottage so long as sufficient ventilation is provided. Floor-space is the most important consideration in the economic building of cottage homes. The cottage with the long sloping roof, of which I have many examples at Bournville, has one great advantage, for if the front walls were carried up level with the ceiling line of bedroom, besides the building suffering in lack of proportion the expense of extra brickwork is considerable. Generally speaking, the height of bedrooms to the point of intersection of the roof and wall need be no more than 5 feet 6 inches. Ample ventilation may be got by the simple insertion of a 9-inch by 7-inch air-brick on the outside wall and a tobin tube within, about 5 feet 6 inches from floor, the cost of the latter being only about 3*s*.

The bath, now justly regarded as an essential in every house, is, where the cottage is not of a size to admit of a bath-room, either sunk into the floor of the kitchen near the hearth, which is covered by what may be used as a standing or draining board, or, if sufficient room, not sunk, but covered by what may be used as a settle or table. In some cases the patent adjustable bath has been used, the same being hinged at the bottom of one end in order that it may be raised and lowered from a cabinet, the upper portion having shelves and forming a cupboard, where it is kept in a vertical position, much room being saved thereby, the cost being about 3*l.* 5*s.* In other cases the admirable arrangement of Corne's combined scullery-bath-range and boiler has been introduced, which I can well recommend. The patent, one well thought out, utilises to its fullest extent the heat of the kitchen, and, while a great economy of space is effected, there is considerable saving of fuel to the householder. The heating and cooking range forms a great part of the division between the kitchen and scullery-bath-room, the flue being coursed over the head of the bath. In the centre of the range is the grate, with an oven on one side and a 12-gallon boiler, in which water is kept hot for domestic purposes, on the other. Boiling water can be obtained by raking down live fuel into a small secondary grate under the boiler through a small hole made for the purpose. Clothes can be boiled in the boiler, with which, owing to its open construction, there is no risk of explosion. Access to the boiler from the scullery is gained by opening a curved door, and further developments have been made in the way of providing a folding door in front of the range, which will shut off the boiler from the kitchen when necessary. The scullery-bath-room, which contains about 36 superficial feet, is fitted with a full-sized iron enamelled bath, supplied with hot water by a pipe from the range boiler and with cold water from the cistern, or through a shower-bath sprinkler fixed overhead, so that this latter luxury can be enjoyed by simply turning the tap. I have found the introduction of White's patent steam exhaust advantageous and efficient in preventing steam permeating other rooms.

The following is an example of a cottage where a clear 4 per cent. is made on the outlay. A large number have been built to this plan at Bournville. The accommodation is:—

Ground Floor.—Parlour, 13 feet 6 inches by 11 feet 3 inches, and bay; living room, 14 feet 6 inches by 11 feet 9 inches (French window); kitchen, 12 feet 3 inches by 10 feet 6 inches; larder, 6 feet by 6 feet 3 inches; porch and hall, and cloak space under stairs; tools, water-closet and coals, enclosed yard and 6 0 square yards garden.

First Floor.—First bedroom, 13 feet 6 inches by 11 feet 3 inches; second bedroom, 14 feet 6 inches by 11 feet 3 inches; third bedroom, 10 feet 6 inches by 8 feet 3 inches; bath-room (hot and cold water). Total cost, including laying out of garden and all extras, 395*l.* per house; estimated net return, 16*l.* per house. A return therefore is gained of 4 per cent. Cubical contents, 26,885 feet cubic, at $5\frac{3}{4}d = 404l.$

The hearth, which should be the holy of holies in the home, is worthy of the architect's most careful attention, even in the smallest cottage. It should in itself convey the suggestion of comfort, and it might be remembered that the most inviting hearth is not that which is surrounded by artistic extravagance. Fireplaces I consider suitable for the six-roomed cottage are as follows:—For front room, interior, slabbed surrounds, tiled hearth and whitewood chimney-piece; dining-room, iron tiled mantel-sham; kitchen, 3 feet range, with white tiled coves and York stone shelf and trusses; front bedroom, 30-inch mantel-sham and tiled hearth; back bedrooms, 24-inch mantel-sham and tiled hearth; the total cost of the whole amounting to 12*l.*

I should like to say a word in favour of the casement window. It is not only cheaper than the sash window, but if in the building of a small cottage beauty of effect is demanded it is expressly cheap. Whatever the æsthetic principle be, there is something (perhaps it is its simplicity) so homelike in its appearance, which makes it infinitely more fitting than the sash species. Behold Juliet bending to Romeo from a sash window. The old difficulty of cleaning may now be obviated by the very simple device of causing the window to open upon a pivot in the centre, inwardly as well as outwardly, which permits the whole of the outside of the fixed pane to be reached easily by the hand. A good window-sill is formed of calf-nosed bricks set on edge in cement, with two courses of tiles beneath, which forms a drip under sill, and a backing of slate, also in cement. By bringing the window-frame forward to reduce the size of top of sill, damp and the driving in of rain at this point—the curses of small property—are prevented. This makes an inexpensive sill, and adding as it does to the appearance, is very suitable for cottages.

The following is the accommodation of a single cottage:—

Ground Floor.—Drawing-room, 13 feet 6 inches by 12 feet 9 inches, and bay; dining-room, 13 feet by 13 feet, and bay; kitchen, 10 feet 9 inches by 10 feet; scullery, 7 feet 6 inches by 10 feet; larder; porch and hall, cloak space under stairs; coals and water-closet.

First Floor.—First bedroom, 13 feet 6 inches by 17 feet; second bedroom, 13 feet by 11 feet; third bedroom, 12 feet 3 inches by 10 feet; dressing-room, 7 feet 6 inches by 7 feet 6 inches; cupboards; bath-room, with water-closet and lavatory (hot and cold water). Total cost (1899), about 600*l.*

The accommodation now given is of a larger class of cottage:—

Ground Floor.—Drawing-room, 11 feet 9 inches by 13 feet 6 inches, with 4 feet 9 inches by 10 feet ingle and bay window; dining-room, 16 feet by 13 feet 6 inches, and bay; kitchen, 12 feet by 10 feet; scullery, 9 feet 6 inches by 9 feet 6 inches; larder; water-closet and coals and tool-house; porch, hall and small cloak space; frontage, 15 yards.

First Floor.—First bedroom, 16 feet 6 inches by 12 feet; second bedroom, 12 feet 6 inches by 13 feet 6 inches; third bedroom, 13 feet 6 inches by 9 feet; fourth bedroom, 10 feet by 10 feet 6 inches; box-room, 9 feet 6 inches by 8 feet 3 inches; bath-room. Total cost (1899), about 650*l.*

My object in giving these different accommodations is to show what can be given in the way of substantial dwellings for the amounts given.

In this case the outlook at the back of the house is to be preferred to the front, and as should always be done providing the aspect is favourable, the principal rooms are placed at the back.

As to wall decoration in interiors, for small cottages I have found it advisable to use papers instead of colour-wash, for the latter is very soon soiled where there are children. In the better houses a colour-wash may be at first used and a paper added later, with a frieze. A good effect is also obtained by bringing down the white from the ceiling as far as the picture-rail, which gives light to and improves the proportions of the room. Picture rails should be placed in the smallest houses, if only to save the plaster. I generally place them level with top of architrave of door.

With regard to bricks, as far as possible I make a point of avoiding those which are mechanically made (the pressed stock brick) and use the brindled Staffordshire ones. They are more suitable for cottage building, for a pleasing variety of colour is introduced at a low cost, the tints being a bright cherry red, blended with purple and blue—the last of which is quite different from the indescribable vitreous blue. I prefer to use the hand-made roofing tiles and thick Welsh green Precelly slates, and occasionally the rustic peggies.

Roof-ridging, though seemingly a small matter, should have careful attention, and in my opinion it is wiser to suppress the same rather than to sharpen it, for by so doing a much-desired homely appearance is lent to the cottage. Many fantastic ridges, with vulgar finials, are employed in the building of small suburban villas, of a more or less sharp-pointed character and of a depth out of proportion with the roof, which gives an unpleasant harshness to the general appearance. With the principle in view that the sky-line should be softened as much as possible, I invariably use the brindled, hand-made half-rounds. With green slates I use blue ridges, as being the most suitable colour, and one which defines without undue severity.

There is a strong temptation to introduce a variety of colours upon exteriors, but with cottages of the class I deal with it is advisable to refrain from so doing. My experience has been that it is best to get the colour in masses, treated broadly, not in bits—say, each house of one colour; for where the cottages stand close together, or even where they are semi-detached, the contrast or relief is borrowed from the neighbouring one, and in the case of a village a much better general effect is thus gained. With whitewashed houses a tarred plinth of about 2 feet is pleasing, and prevents the rain and mud splashes from being seen.

With regard to the thickness of walls, my opinion is that a 9-inch wall outside is quite sufficient, and is to be preferred to the cavity wall. South-west fronts should be protected by overhanging eaves, but where this is impossible the face should be whitewashed, by which not only is damp largely prevented, but an effective appearance gained.

As to general timber, I have used common building red deal, the joinery being of seconds and thirds Archangel, and, where larger timber is required, the ordinary pitch-pine. Oak is advisable for weather-boarding and sills.

Half-timber for exteriors I do not recommend. District councils insist on a 9-inch wall being at the back; thus not only is its use false art, but an unwarranted present and future expense; an effect equally as good, moreover, is obtained with rough-cast or whitewash. Half-timber one lives to regret, for the weather tells sadly, and it demands constant repair.

A garden arrangement largely adopted is as follows:—At the bottom are eight apple and pear trees and fruit trees, which, besides being reasonably expected to bear fruit, form a screen between houses which are back to back. The paths are made of 6 inches of ashes and 3 inches of gravel. The position of the grass plot and ornamental bed at the top permit a little soothing green and flash of colour to be seen from within the house. Tool-sheds should be erected beyond the outhouses, not only because of their usefulness, but as a means of preserving the appearance of the back. The tenant, if these are not supplied, invariably knocks up a disorderly apology from Sunlight soap boxes, and it is best to forestal him.

Given a plot of land upon which four houses are to be erected, it is advisable, in order to more equally distribute the garden space, say, of about 500 or 600 square yards per house, to spread them laterally by arranging the staircase, not between the rooms but between the houses, thus widening (not lengthening) the building. This, bringing the remote houses nearer the extremity of the land, not only gives the garden plot the preferable straightness, but a breadth of view upon same is obtained from within and the yard space materially widened.

The paper was illustrated by lantern slides of a number of plans and views.

Mr. E. Guy Dawber proposed a vote of thanks to the reader of the paper.

Mr. Sydney Vacher seconded the motion, supported by Messrs. H. D. Searles-Wood, Arthur Keen, Francis Hooper, T. C. Yates, W. H. White and Maurice B. Adams.

MR. T. HARDY ON ARCHITECTURE.

Imaginary conversations between several characters have been produced from time to time. Bulwer-Lytton has occasionally introduced them in chapters in his later novels. There is no reason why they should not serve as well as the correspondence which is employed in some cases. When, however, Mr. Thomas Hardy made the attempt in "The Dynasts" it was considered by several critics to be an innovation which should be condemned. It was overlooked that in the majority of novels the dialogues are the important parts, and readers will skip descriptions although written by Walter Scott, and moralisings although written by Thackeray, in order to arrive at the conversation between the various characters. In all such cases the fitness for stage purposes need not be considered. The criticism on "The Dynasts" in the *Times* of January 29 was directed to prove the weakness of the book on that account. The writer in one place said:—"Let us take an example from Mr. Hardy's old profession. It is an elementary principle in architecture that structure is conditioned by material. Stone demands one kind of building, iron another, wood a third. Suppose an architect were laboriously to construct an iron bridge under the limitations proper to a stone bridge, would Mr. Hardy applaud the feat? No, he would say it was bad architecture. So we say when it is attempted to build a book according to the methods of a play, or a play according to the methods of a book."

To that argument Mr. Hardy replied as follows in the following number:—For a rather digressive reason your reviewer drags in the art of architecture. In mercy to his own argument he should have left architecture alone. Like those of a play for reading, its features are continually determined by no mechanical, material, or methodic necessities (which are confused together by your critic). As for mechanical necessities, that purest relic of Greek architecture, the Parthenon, is a conventionalised representation of the necessities of a timber house, many of which are not necessities in stone, such as the imitations of wood rafter-ends, beam-ends and ceiling-joists. As for necessities of purpose, Mediæval architects constructed church parapets with the embrasures of those of a fortress, and on the Continent planned the eastern ends of their cathedrals in resemblance of a Roman hall of justice. In respect of necessities of method, that art, throughout its history, has capriciously subdued to its service, in sheer waywardness, the necessities of other arts, so that one can find in it a very magazine of examples of my own procedure in "The Dynasts." Capitals, cornices, bosses and scores of other details, instead of confining their shapes to those strictly demanded by their office, borrow from the art of sculpture without scruple and without reason. Sculptured human figures are boldly taken, and, by the name of caryatids, are used as columns. In sculpture itself we find the painter's "necessity" borrowed—a superficies—and used for bas-reliefs, even though shapes are misrepresented by so doing. And if we turn to poetry we find that rhythm and rhyme are a non-necessitous presentation of language under conditions that in strictness appertain only to music. But analogies between the arts are apt to be misleading, and having said thus much in defence of the form chosen, even supposing another to have been available, I have no room left for more than a bare assertion that there was available no such other form that would readily allow of the necessary compression of space and time. I believe that any one who should sit down and consider at leisure how to present so wide a subject within reasonable compass would decide that this was, broadly speaking, the only way.

LIVERPOOL CATHEDRAL.

The cathedral, standing on St. James's Mount, 155 feet above the river, according to the official description, will be seen at once from every vessel approaching the Mersey. Its two great towers, by far the highest objects in the city, will rear their lofty heads 415 feet above the level of the sea.

Both by the magnificence of its proportions and the excellence and originality of the design, it will take a very high rank among the great cathedrals of England, while its vast height and lofty cross transepts will mark it as one of the most imposing edifices in Europe.

The ground occupied by the cathedral, with chapter-house and morning chapel, will be about 90,000 square feet, which exceeds the area of any other English cathedral.

Including the northern entrance and morning chapel, the cathedral will be 584 feet long. Comparing this with measurements of other English cathedrals, the internal length of St. Albans is 550, of Winchester 526, and of Chester 355 feet. The nave up to the "crossing" of the transepts, measured internally, will be 192 feet long, or up to the entrance of the choir 240 feet. The nave of York Minster is 262 feet, while Westminster is only 166, St. Paul's 200 and Salisbury 229 feet. The width of the nave between the centres of the piers will be 53 feet 6 inches, exceeding by several feet that of York Minster.

The towers will be each about as large in area as the great central tower of York Minster, 65 feet square, and until now the largest in England, and will surpass it in height by 62 feet, rising to 260 feet above floor-level, or 275 feet above St. James's Road. Perhaps the most remarkable and striking feature of the cathedral will be the height of the vaulting of the nave and choir—measured to the barrel vaulting, 116 feet, and into the high transepts, 140 feet—which cannot fail to produce a very magnificent effect. No cathedral in the country approaches this height. The nearest is Westminster, the nave of which has a height of 102 feet, while York measures 99 feet, then Salisbury 84 and Lincoln 82. Chester reaches only 78. The "Whispering Gallery" of St. Paul's Cathedral is 100 feet from the floor.

The cathedral will afford seat room in the portion to be first completed—the choir and central space—for about 3,500 persons, and the entire building could, when finished, accommodate 8,000.

The most striking and original architectural features of the elevation are the high transepts, which are carried up to the full height of the nave and choir; these break up the length of the building and impart to it a massiveness so often absent in buildings of Gothic character. It is a design which requires careful study, and the more it is studied the more impressive does its quiet dignity and grandeur appear. While the exterior is full of originality, and asserts its importance by its bulk and grand proportions, the interior promises to be quite unique, affording a perspective of magnificent arches towering up 120 feet in height above the nave and choir, and flanked on either side by other vistas of arches, each arch being 65 feet high, the whole surmounted by a triforium. A religious feeling and fervour appears to pervade the whole interior; everything is quiet and devotional in feeling, impressive in its grandeur, and inspiring in its charming and attractive simplicity.

NOTES AND COMMENTS.

We have already referred to the excavations which have been conducted in the Isle of Rhodes by Danish archæologists. A great many of the objects discovered have been arranged in the Copenhagen Museum, and are regarded with triumphant feelings, for they show that the Danes are not behind other people in their love of antiquity. Rhodes was conquered by the Knights of St. John, and there is little doubt that the materials of the ancient buildings were utilised for fortified castles. The spot selected by the Danish archæologists was the site of the Temple of Athenæ. It stood on a height about 400 feet above the sea. The building, which is supposed to have been erected in the fourth century B.C., was Doric in style, and was approached by broad steps. Evidently the temple was adorned by a great number of marble statues, of which remains were found. There were also about 300 inscriptions. Outside the temple boundaries numberless terra-cotta figures were found, which, it is believed, were votive offerings, but of too humble a character to be deposited in the temple. Some must have been of earlier date than the building. All the objects discovered cannot be brought to Copenhagen, for by an arrangement the lion's share belongs to the Turkish Government. As the permission to excavate will not expire until next September, it is hoped that, besides exploring the metropolis, the archæologists will also be able to carry out operations on the site of the theatre. A plan of the site of the excavations has been plotted by Lieutenant Bagger, and Herr Koch, an architect, has prepared a series of drawings. So far the expedition can be considered as most successful, and it is satisfactory proof that the same zeal which has done so much for the elucidation of northern antiquities can become no less effective in the investigation of Classic art.

Many ancient inscriptions relate to important events, and can possess attraction mainly for earnest students of history. One class has thus obtained priority, and it is assumed that inscriptions in general are no more than official records. But to ordinary people the most interesting are those which relate to individuals, especially when they reveal how slight was the difference between those who lived in Classic times and the people of the present day. For instance, a gravestone has been found in a suburb of Mayence which dates from the time of the Roman occupation, and therefore probably about a century before the Christian era. The following is a translation:—"Trophimus, a slave of Marius Rusticus, and twenty years of age, is here buried. Oh, mother! your lost Trophimus must you always lament. It is an injustice, however, decreed by fate that you should have to bury your son." The words sound like a voice from the tomb, but at that time, as now, the order of nature seemed to be inverted when the children departed prior to their parents. In the museum of Mayence there are no less than eight gravestones commemorating slaves. A Roman master or mistress could treat a slave as cruelly as if he were a beast, and unquestionably tortures were inflicted which now seem incredible. But all *servi* were not subjected to barbarities, and the *familia urbana*, or those who lived in the master's house and who sometimes were waited on by sub-slaves, must have led a life which was not devoid of its enjoyments. Trophimus was probably the son of a female slave, and may have been born in the house of his master, when he would be known as a *verna*. But the word is more suggestive of an adopted child reared in the house. The names of slaves were often derived from the country or district in which they were born, but fanciful names were also given.

Municipal Government has become of late so important as to constitute a fourth estate of the kingdom. Compared with it the Press, which used to arrogate that title, has only an inferior claim, for not being entrusted with the disposal of public funds the authority and responsibility are necessarily diminished. When the number and variety of those who have a direct concern in municipal affairs are considered, the need of a special club does not require any demonstration. The success of the Municipal and County Club, which was established last year, is evidence of the want. At present the membership comprises town clerks, municipal architects, engineers and surveyors, medical officers of health, clerks to councils, guardians and school boards. It has been decided to give the club a wider scope, and besides officials, to include all gentlemen who take an interest in municipal affairs. The committee have since December 1 elected 100 new members, and they propose to admit another 100 before fixing an entrance fee on joining. Amongst the new members are the following:—Sir Samuel Provis, K.C.B., permanent secretary of the Local Government Board; Mr. E. A. Cornwall, vice chairman of the London County Council; Mr. J. C. Lewis Coward, K.C., M.A., recorder of Folkestone; Sir James Weekes Szlumper, C.E.; Mr. Norval Watson Helme, M.P.; Mr. H. J. Leslie, chairman of the Liverpool School Board. The club premises are at 4 Whitehall Court. The annual subscription is two guineas for country members and three guineas for town members. Mr. G. L. Gomme, F.S.A., is president, and Mr. G. W. Hornsby secretary.

ILLUSTRATIONS.

HOUSE AT BANSTEAD, SURREY: WEST FRONT.

MIDLAND HOTEL, MANCHESTER.

VICTORIA MANSIONS, SUMATRA ROAD, N.W.

HAMILTON COTTAGE HOSPITAL, TUNBRIDGE WELLS.

THE building illustrated has been erected in connection with Miss Goldie's well-known school for young ladies at Tunbridge Wells, containing about 100 pupils. There are two large wards on the upper floor, each intended for four patients, with nurses' room, bath and sanitary accommodation placed conveniently between the wards. One of the wards is also arranged so that it can be shut off from the main landing, and used with separate sanitary accommodation, and separate access for doctor, &c., from without in case of specially infectious illness. There are separate baths for housekeeper, patients and convalescents, and a convalescents' room apart from the wards. The kitchen and housekeeper's bedroom, &c., are on the ground floor, with independent access, and the service for food, &c., is by means of a lift to the patients' floor. The warming of wards is by ventilating grates, taking in fresh air from without, and the internal finishings are as simple as possible, with stained and polished floors, flush skirtings and cemented walls finished with Hall's distemper. The lighting is electric, and there is telephonic communication from the wards and service department, connecting same also with the principal school house.

The building is finished externally in red brick, with oak lintels and the upper storey in rough-cast. The builders were Messrs. Soper & Jones, of Tunbridge Wells. The cost was about 1,900*l*. The architects were Messrs. Searle & Hayes, of Paternoster House, E.C.

CATHEDRAL SERIES.—CHESTER: THE CLOISTERS.—DOORWAY IN CLOISTERS.

IT is always wise to leave a part of a restored building like Chester Cathedral in an untouched state, in order that people will be able to realise what had to be accomplished. Some enthusiasts may prefer to see the original masonry in a condition like that suggested by the illustration, but they are exceptions. The majority of those who attend services in old churches prefer to have before their eyes walls which are less suggestive of decay. In Chester as elsewhere the cloisters are not much used, and may therefore be allowed to exhibit the wear and tear which centuries have produced, and their condition serves as a foil to the restored work of the main building. In some parts it was indispensable that a similar treatment should be adopted in the cloisters as in the cathedral. The cloisters serve to demonstrate that the cathedral is the transformed monastery of St. Werburgh. They are placed on the north side of the nave (an arrangement which is more suggestive of the south of Europe), for as the large south transept was claimed to be the church of the parish, the monastic rulers may have imagined friction would arise from the contiguity of parts which were destined for the use of the monks. On one side of the cloister garth was the vestibule leading to the chapter house and fratry, on another side was the refectory, which rivalled the chapter-house in interest.

THE VENTILATION OF CHEMICAL LABORATORIES.*

EVERY branch of educational work is receiving just now an immense amount of consideration, and methods of teaching are being almost revolutionised. But at present there is no unanimous agreement as to how science should be taught, therefore there can be no definite principles on which the fittings and details for all chemical laboratories can be safely based. If an architect visits a number of laboratories to learn how to arrange the fittings, he generally comes to the conclusion that he is finally much where he was at the beginning, because every science teacher seems to have definite views of his own, and each appears to disapprove of the methods adopted by all the others.

Even at the present time the science and practice of ventilation is only imperfectly understood. Its progress almost entirely depends on the careful observation of the effects obtained in various buildings, whether the results are exactly those aimed at or not.

It is unnecessary, I feel sure, to point out the great need there always is for efficient ventilation in chemical laboratories, it must be so obvious to all.

In a chemical laboratory used for teaching purposes, the essential requirements are a room for practical work and a lecture-room, but nowadays these are not always separate rooms.

The ventilation of both the laboratory and the lecture-room can be considered under (*a*) the general ventilation and (*b*) the special or local ventilation. The former is the process of removing the air rendered impure by persons and lights and replacing it by fresh air, while the latter is the process of carrying away all the fumes, &c, evolved during the various experiments and operations performed in the laboratory If these fumes are not drawn off, they gradually diffuse through and vitiate the whole atmosphere of the laboratory. Means of extraction should be provided, if possible, at various points throughout the room, and as near as practicable to the apparatus which is the source of the fumes.

In "natural" ventilation, the movements of the air in the building ventilated are principally due to difference in weight of equal volumes of air. Having to depend on these ever-changing variations of air-pressure, natural ventilation is too uncertain, irregular and feeble to be relied upon for chemical laboratories. Natural ventilation is undoubtedly affected to a considerable extent by wind, but, on the other hand, far too much importance is usually attributed to the aspirating power of the wind blowing over the roof of a building. A supply of fresh air, warmed and well distributed, entering at the floor-level, possesses greater ventilating influence than any of the much advertised "self-acting air-pump" ventilators.

With ventilating radiators, the tendency will be for a supply of fresh air to be drawn in as long as they are in use.

An open fire is a valuable ventilating agent, because while alight air from the room is drawn up the flue or up the adjacent vent-flue. It is not a very satisfactory means of warming even a small chemical laboratory, because a coal fire requires constant attention and causes dust, ashes and smoke, and a gas fire is expensive and the fumes from it may be troublesome. Nevertheless, gas fires are frequently utilised in small school laboratories, probably because gas is also required on the benches for heating apparatus.

Artificial systems of ventilation can be separated into two classes, according to whether the movement of the air is brought about by heat or by mechanical means. Heat for this purpose may be obtained from a furnace, gas-burner, hot-water or steam pipes, &c.

A large number of chemical laboratories are ventilated by aid of the heat of a furnace Gas-jets in flues are frequently used to extract fumes. The ease with which gas-burners can be introduced into an existing building, the small amount of space they take and their inexpensive nature are often important recommendations in their favour.

Mechanical ventilation is usually divided into "plenum" and "vacuum" systems Occasionally it is found advisable to combine extraction with propulsion. There is one advantage of employing the plenum system in a chemical laboratory It is this: in the plenum system the air within the room is under a pressure slightly in excess of the outside atmospheric pressure, hence fumes generated within the draught-closets, which will be described later, are more likely to pass through the vent-flue into the outer air than enter the laboratory. The mechanical means usually employed to move the air are fans. For the special ventilation of chemical laboratories it is best to employ enclosed centrifugal fans to push or pull the fumes through the ducts and flues. It must not be forgotten that the fumes will act upon the blades and axis unless special precautions are taken. Great care must be taken in planning and constructing the fume-ducts in order to avoid unnecessary friction; smoothness of internal surface, with absence of sharp bends and sudden increases of size, are essential.

The chief fittings in chemical laboratories we are concerned with here are working-benches, draught-closets and combustion-benches. Occasionally draught-hoods or small draught-closets are provided at intervals along the benches, probably one to each pair of working-places. These hoods or enclosures are intended to immediately carry away all fumes produced during operations conducted at the benches. The flues along which the fumes are drawn from these hoods to the fans or gas-jets require careful planning in order to get an equal pull at each hood.

Ordinary draught-closets are of such a size that experiments can be conveniently carried on entirely within the enclosure. They are usually fixed against the walls of the laboratory, with the outlet for the fumes into the vent-flue at the top of the closet. If there are a number of closets in the laboratory with separate vent-flues, there is the risk that some of the flues will act as inlets to the room, hence the advantage of connecting all the closets to one or two outlets in which fans are placed.

Combustion-benches generally have hoods over them to collect the currents of hot air and vapours and to conduct these to the flues.

In the lecture-room it is desirable that there should be some contrivances for local ventilation in addition to the arrangements for the general room ventilation, such as a large draught-closet in the back wall of the room, or two or more down-draught flues fitted into the lecture-table.

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* Abstract of paper read before the Architectural Association Discussion Section, on January 27, by Mr. T. H. Russell, M.A., author of "The Planning and Fitting-up of Chemical and Physical Laboratories."

REGISTRATION OF ARCHITECTS.

THE following were the remarks on the subject of registration by Mr. Butler Wilson when responding for the visitors at the annual dinner of the Nottingham Architectural Society on the 3rd inst.:—

On behalf of my Society and myself I thank you, Sir, for this the second invitation which has been so kindly extended to me to attend your annual dinner. I am deeply impressed with the importance and usefulness of intercommunication between the allied societies. Although we are bound togethe through our common alliance with the Royal Institute, yet are there not some questions of which we make common cause—questions which appeal to us perhaps more strongly than they have, so far, appealed to our metropolitan brethren? On these occasions is it not well for us to consider the general well-being of our profession? Interchange of thought may result in some helpful suggestions.

We are on the threshold of great changes—changes, I think, charged with benefit not only to us architects, but to the public. The allied societies have declared themselves very definitely in favour of the statutory registration of qualified architects. The Royal Institute, on the motion of a past president (Mr. Macvicar Anderson), has appointed a committee, one-half of whom are non-metropolitan members, to consider this question. To my mind the great argument in favour of registration is the attendant education which will accompany the measure.

So many students at the present time successfully pass the preliminary and intermediate examinations of the Institute who fail to come up for the final There is a woful lack of training and education amongst the great majority of those practising architecture, and this is a deplorable state of things which would in time be remedied by compulsory examination. Professor Aitchison has expressed the opinion that no sane person can suppose that architecture would not rapidly progress if architects were required to show that their knowledge rested on a solid foundation of science and æsthetics, and he has also remarked how enormously the arts of surgery and medicine have advanced since the passing of the Medical Act. It has been suggested that the Royal Institute would suffer, but the passing of the Medical Act has in no way injured the prestige or income of the Royal College of Surgeons (the fees paid to that Institution in 1865-66 amounted to 7,916*l*., and in 1902-93 to 19,431*l*.). This goes to prove that our Institute has nothing to fear in that direction.

A professional journal has said that registration has resolved itself into a fight between London and the provinces. I have yet to learn that the Royal Institute draws any distinction between its metropolitan and provincial members. I can find nothing to that effect, either in its charter or its by-laws. On the contrary, I have been told that a majority of members residing within the metropolitan area are in its favour. I read the other day that the men who regard architecture mainly as a business will vote for registration. But I do not see how a mere business man could possibly become a member of the Institute. I have always understood that one had to exhibit a certain amount of artistic ability before being admitted. Therefore I take it that every member of the Institute has reached that standard of artistic ability which is fixed by the Institute. I therefore disregard any attempt to classify our members in this manner.

If the majority of the members are wishful for a certain reform they will elect representatives on the Council who are of their way of thinking. The allied societies will, I feel certain, give every assistance to such a course of action. There are already thirteen registrationist members of Council; it should not be difficult for the supporters of registration to increase that number until it has a majority. We have heard it stated that almost all the men whose work we admire are against the movement. That can only infer that there exists among those who favour registration no man whose work commands any admiration, an inference which I am sure will not for one moment be accepted. It was thought at one time that membership of the Institute would be a guarantee to the public, and that in time all reputable practising architects would join its ranks. That was a dream which has long since vanished. There is a much greater volume of men passing into the profession than there is passing into the Institute. It was hoped that this state of things could be reversed. It is stated that the Institute of Civil Engineers has succeeded in making it necessary that members of that profession shall join its ranks.

I do not know whose fault it may be, but the Institute of Architects has failed altogether in this respect, and it is as far off that Utopia as ever it was. I do not see that any measure for sweeping into the Institute, by easy means, every practising architect, can be logically put forward by the opponents of registration, or receive much encouragement from the associates. I would characterise that as a low ideal. The ideal which we supporters of registration put forward is something better than that. It is the raising of the standard of architecture and thereby lifting the architectural tastes of the public; the removal and distribution of this admiration for the work of the select few over a somewhat wider field than it is suggested that it occupies at present. As I have said before, our objective is the renaissance of a cult whose disciples shall have well studied those arts and sciences which make for beautiful building, and not until that objective is reached can we expect them to mould those elements into an architectonic entity.

It is stated that the incompetent would be legally recognised as competent for at least a generation. I will take a charitable view of this objection, and will assume that it infers that incompetency is peculiar to those commencing practice at an early age. As a matter of fact, the larger portion of the untrained and uneducated who enter the profession do so late in life as a means of adding to the emoluments of their true vocations, or in hopes of raising their social position by a change of occupation. These, under the voluntary system, have as good a right to style themselves architects, and, what is more deplorable, will be recognised by the public as such quite as much as the members of the Institute itself. But this influence would speedily pass away. In ten years one-half of this number would pass out of the profession. In twenty the whole effect of their registration would have ceased to be felt.

In the many instances of the registration of professions, is there a solitary one in which its immediate result was injurious to the collective body or to the individual members? Legislation cannot be justly made retrospective, but once the doors are closed the regeneration of the profession would commence forthwith. Admitting that some injury accrued to true architects by the wholesale registration of all who now subsist by following architecture, this would be counterbalanced by the immediate cessation of any increase in the numbers of the profession after the passing of an Act.

One of the main objects advanced by opponents of registration is that it will simply register the title of architect, and that such practitioners who will not be bound by restrictions, or wish to evade the possibility of certain penalties which registration would impose, will flock and join the Surveyors' Institute. This is a very appalling suggestion. I hardly think that such a widely respected and powerful Institution will feel particularly complimented thereby Nor do I for one moment imagine that it will throw open its doors to these black sheep of the profession. Are we asked to believe that any reputable architect will refuse to be registered? When he knocks at the door of the Surveyors' Institute he may be asked to give his reasons why he objects to register as an architect It cannot be seriously advanced that the Surveyors' Institute will allow itself to become a dumping ground for those architects who may wish to increase their income in any way they may think fit It seems a most reprehensible suggestion The very fact that any architect refused to be registered would in itself be a sufficiently suspicious circumstance in the mind of the public, who would ask itself the reason for this refusal, and would not be slow in drawing its own conclusions.

Some might say with all sincerity, "Art cannot thrive under restrictions; art must be free as air." "Quite so," the public would say; "we think you know the kind of freedom you mean" It would simply come to this, that an unregistered architect would be synonymous in the public mind with a practitioner who was under no obligations to refuse illicit commissions. I should like to hear the views of the Surveyors on this suggestion, that they will allow their body to form a screen for dubious practice; I should be glad to know their opinion upon this low estimation of the purpose, standing and integrity of their Institution.

Another objection urged is that it would result in divorcing the art and science sides of architecture. It is said that there would arise a race of artist-architects who would decline to submit to a statutory examination. This idea seems to involve the startling theory that the art of the architect can exist without its exponents possessing constructional knowledge. The art of architecture rests upon the foundation of an intimate acquaintance with the scientific requirements of construction. It did so, at any rate, in the case of Sir Christopher Wren, who was a scientist first and afterwards an architect. Can it be advanced that architectural design does not in any way rest upon the scientific knowledge which a compulsory examination would secure? The mere mention of the possibility of the separate existence of art and science in the practice of architecture is fraught with mischievous consequences to the profession, and should be strenuously denied by every one who values the honour of his calling. It would be infinitely preferable to make all architects competent, and so make them directly responsible for hygienic or constructional blunders. The Royal Institute was established for a specific purpose, and if by supporting registration and carrying it into effect it can raise the general tone of the profession, then it will in truth be fulfilling the object for which it was founded, viz. "The Advancement of Architecture."

PEDIMENTS AND GABLES.

THE pediment and the gable afford a striking illustration of the different character the same feature assumes in different styles of architecture Both are essentially the same, as well in their origin as in their nature; nor was either of them adopted from any preconceived idea of its beauty, but dictated by necessity alone and by the mode of construction, although each afterwards became a very prominent and ornamental part of the edifice. In both instances, too, we find that one of the most unpromising, and what is considered the least pleasing geometrical form, has gradually become to be considered so intrinsically beautiful that it has been employed for embellishment wherever it could be introduced with any degree of propriety, or with any appearance of utility. Thus we meet with the outline of the pediment in ancient sarcophagi, and smaller pediments are employed to crown doors and windows; while, in the other style, the gable form is still more frequently repeated and enters into a far greater number of combinations, being introduced over doorways, porches, niches; on buttresses and pinnacles; in the tracery of windows and screens, and frequently, too, in internal timber ceilings or roofs, which have hence obtained the name of gable roofs. To continue this parallel a little further, it may be observed that in each of the styles of which we are now speaking, the contrast arising from the intermixture thus produced, of oblique or inclined with vertical and perpendicular lines, is pleasing, and it forms a common characteristic distinction between these and the Egyptian style of architecture, because, although oblique lines predominate in the latter, they are there substituted for vertical ones, the walls themselves being inclined planes; neither does anything of the pediment form appear above the general horizontal line of the cornice, or in any similar situation. And this is so very striking and important a distinction, that it suffices of itself completely to overthrow Murphy's theory with regard to the derivation of the Gothic style from the Egyptian; since, had the former been in any degree borrowed from the latter, it would surely have exhibited in its first stages some resemblance, however faint, to one of the most obvious and decided peculiarities of that species of architecture, whereas not the slightest indication of it is to be traced.

Another point in which the pediment and gable agree, and which also shows how similar occasions will naturally suggest an analogous process of art, under very different circumstances, is the application of additional ornament; the tympanum of the pediment was enriched with sculpture, and its angles were decorated with acroteria, supporting statues, tripods or other ornaments; the gable, on the other hand, was frequently adorned with corbel arches, or a series of small columns and arches; or with ornamental panelling and tracery; or with a window or niche; while pinnacles supply the places of acroteria In some instances, too, the apex of the gable was terminated by a canopied niche containing a statue.

So far, then, there is an evident analogy between the ediment and the gable, independently of the more obvious one ising from each being the triangular termination of a sloping of. But in the extensive variety of which it is susceptible, both itself and in its relation to the other parts of the structure, e gable possesses a considerable advantage over its Grecian unterpart. The pediment is so intimately connected with the der beneath, and of which it is an integral part, that unless it nforms to the proportions dictated by this, the harmony of the hole composition is destroyed. Hence the inclination of e roof, which rarely exceeded 15 degs., was frequently much ss in an inverse ratio to its span so as to accommodate the eight of the pediment to that of the entablature. In none of e temples at Athens, except the Parthenon, does the height the pediment exceed that of the entablature, and in this tter building, which is octastyle, the pitch of the roof is made very low that the pediment is but very little deeper than the ntablature. It is evident, therefore, that an instinctive feeling r beauty rather than any uniform rules governed the practice f the Greeks in this respect. The Romans and moderns, on e contrary, have paid more attention to what they have con- dered the necessary inclination of the roof than to archi- ctural beauty and harmony. Of this we have a striking xample in the portico of the Pantheon. Like the Parthenon, at structure is octastyle, but the slope of the pediment is so reat that the height of the latter is more than double that of e entablature, or about half that of the columns; in con- equence of which, it not only appears enormously large and eavy for the parts that support it, and which it almost seems crush by its superincumbent weight, but the order itself ecomes almost petty and insignificant in comparison with the ass above it. The contrast exhibited in this respect between e Athenian and Roman edifice is likewise rendered still reater by the vast difference in the character of the respective rders.

The pediment is restricted to certain proportions as regards e building itself; while the gable, being subject to no such mitation, may be made of any pitch, as convenience or fancy ay dictate, and without any regard to the proportions of other arts; for being merely a continuation of the general wall or ront, it in nowise affects or is affected by other parts on which has to depend for support. Accordingly, we meet with ables not only of every variety of pitch, but of every variety f proportion, both as regards the general altitude of the build- ng and its other dimensions. Here, then, in addition to the ariety of character arising from the positive height of the able, or that determined by the pitch and span of the roof, we ave also that produced by its relative height, which is sus- eptible of equal, if not still greater diversity. Sometimes, for nstance, the height of the gable is not more than one-seventh f the entire altitude, while in other instances it is one-half, r even more. Another circumstance which tends materially to ncrease the variety observable in Gothic architecture is, that he gable may either extend over the whole front of a building r any single division of it. In many ecclesiastical structures he western gable is flanked by towers, while other edifices dis- lay a series of gables, either placed contiguous to each other, r at intervals, examples of which are frequent in the domestic rchitecture of our ancestors; and a specimen of a continued series of gables in the same front.

We have now to show how all the rudiments of Gothic Pointed architecture might have been systematically derived from the primary idea furnished by the triangle as it appears in the acute-angled summit of the elevation. We shall not scruple to avail ourselves of the *petitio principii*, assuming that, let it happen as it might, whether by mere accident or premeditation; whether, as is most probable, from the occasion of making a window in the intersection of two semicircular arches, and if so, designedly making it in that precise situation in order that the mouldings of those arches might seem to terminate and give a finish to the head of the aperture; or whether the idea first suggested itself from considering in the draft of a building what would be the effect of substituting for the Saxon arch the form described by the intersection of two such arches. Be this as it might, we repeat we take the thing itself for granted. In an arch so produced, its chord and lines drawn from the extremity of that or from the spring of the arch to its vertex would describe an equilateral triangle, which may be considered as the average proportions of the gable. The heads of the early lancet window, it is true, are somewhat more acute; yet after the first discovery of the arch, obtained as above described, that greater acuteness of form may have been adopted as assimilating better with the proportions of the general aperture, which was very narrow as compared with its height. In process of time two and afterwards more such apertures were combined together, forming separate compartments in one large window, which being included under one common arch, serving as the head to such a system of apertures, would occasion the application of the arch upon a more extended scale than before, and one that would render the relationship in point of general outline between the acuminated arch and the acuminated pediment or gable so striking as to point out the means of obtaining a greater consistency of character between the various parts of a design. The forms that would naturally suggest themselves for suitably dividing the arched head of the window would give rise to other arches, or to circular compartments, leaving lesser triangular spaces, which, in their turn, would be subdivided into still smaller circles, intersecting each other so as to produce the trefoil. Here then we find the germ of that characteristic decoration of the Pointed style, tracery, which afterwards expanded itself into such a beautiful system of harmonious intricacy; for this style possesses a vital principle, analogous to that of the vegetable creation, owing to which it is able to ramify indefinitely, whereas Grecian architecture is more subjected to the laws of animal organisation. The style of which we are speaking has also, like the plant and polypus, a living power extended throughout every part, so that it will bear to be subdivided in nearly the same degree, the separated portions becoming new and independent forms.

With regard to tracery, we may further observe that all the individual forms and all the arrangements of them may be referred to various species of triangles, and this triangularisation will likewise be found to prevail in various parts of the general design. As the original simple lancet aperture was multiplied and combined into the larger window, thus producing several smaller arches comprehended within a large one, so also was the gable itself multiplied and repeated in various parts of the buildings in the form of so many lesser gables In this way it was applied to crown buttresses and niches, and frequently as an additional ornament to doorways and windows, inscribing their arches and exhibiting that intimate sympathy which appears to have been considered as existing between the rectilinear and the curved triangle. Neither is the double or compound triangle wanting, for we meet with it many ornamental details, both as two distinct triangles having their bases united, and as combined into the lozenge shape. Again, from the gabled buttress the transition to the pinnacle is almost spontaneous, little more being required as the first hint towards it than to substitute for the more regular triangle one more consonant in its narrower proportions with the lofty and slender buttress supporting it.

ROYAL SCOTTISH ACADEMY.

THE Royal Scottish Academy dinner prior to the opening of the annual exhibition, which was revived last year after being in abeyance for many years, was held on the 5th inst in the Great Room of the Galleries. Sir James Guthrie presided

Lord M'Laren gave the toast of the evening, "The Royal Scottish Academy." The merits of the Academy were, he said, sufficiently proved by the number of good artists who were constantly seeking to obtain admission to the Society, and the utility of the exhibition was attested by the excellent pictures they saw at the annual exhibitions. The claim of the Scottish Academy to public honour and to State recognition must in the main rest upon what the Academy had done for art instruction and for the development of a national school of art. Some of them were frequent visitors to the exhibitions of London and the salons of Paris, and when they saw works of the distinguished President of the Scottish Academy and of many other well-known Scottish artists occupying places of honour on the walls of those exhibitions, when they read that pictures by Scottish artists had been purchased by foreign Governments, and had been placed in great national and imperial collections, then he thought the existence of a true Scottish school was vouched in the most authentic way by the opinions of judges and of artists, whose verdict was beyond cavil or dispute. It was due to the Royal Scottish Academy to say that its work had been performed under considerable disadvantages, some of which he hoped would soon be removed. In regard to the highest walks of art education, which the Academy had undertaken, what was wanted was a sufficient and commodious habitation in which the life school of the Academy might be conducted, and in which there might be more room for the annual exhibitions of its members. It was something gained that an important and strong committee, with an English Minister at its head, had reported in favour of better endowment of art education in Scotland, and for the purpose of enabling the Academy the better to perform its duties of placing the building in which they were met entirely at its disposal. What he, as a Scotsman, would desiderate was an exhibition in the capital of Scotland of pictures in larger numbers than we had been accustomed to see, and attracting a larger public than we had sometimes seen within those walls.

Sir James Guthrie acknowledged the encouragement of Lord M'Laren. The members of the Academy and all interested in art had, he said, need of encouragement at the present time, for they had come to a stage which they hoped would be one of transition, and they had glimpses of times ahead in which they would have better opportunities of doing their duty than at present. As for themselves, their duty in this matter was clear. They must take advantage of the move the Government had taken; they must put in the forefront the great national needs, and put in the background the small vested interests In his opinion the report of the departmental committee was a good report, and those who had made it were honest men who were endeavouring to do their best to solve a by no means easy question, and who had given some practical direction that, if followed up, would take them a long way ahead of their present position, but, whatever they did, they should see that, however modest their beginnings might be in this new direction, they would leave room for expansion. If they were to do their best for art in Scotland they must beware of over-centralisation. It was impossible for them in that building to do the duty that was required of them. They were the Royal Scottish Academy of Painting, Sculpture and Architecture. They had three great elements to deal with apart from art education, and it required no seer to see that it was quite impossible to do justice to all those elements. They were in this position, that if they attempted to do justice to one element they were bound to do the greatest injustice to the other elements. Even in painting, which was only one element, they had barely space to do justice to the works of their own countrymen. How, then, could they link them on to the work of the world at large? Referring, in conclusion, to the Whistler collection, Sir James quoted from a book published in London after Whistler's death. Although Mr. Whistler held one or two offices, he never received any official honour in this country. It was true the book was printed in England, but England did not come north of the Tweed, and neither did the truth of this statement, for, beginning some ten years ago with the action of the Corporation of Glasgow acquiring the magnificent work which occupied the place of honour in the exhibition, the people of Scotland had shown Mr. Whistler all the recognition that it was in its power to bestow. Be they large or be they little, they gave him in his lifetime all that they had to give him, and perhaps that was why his Council and he had, in spite of serious and powerful competition, received the generous thought of the owners of those beautiful pictures, to whom he took that opportunity of expressing their hearty thanks.

THE SOCIETY OF ANTIQUARIES.

At the meeting of the Society of Antiquaries at Burlington House Mr. A. Trice Martin presented a report, well illustrated by lantern-slides and plans, on the excavations carried out in 1903 at Caerwent. The principal work was at the north gate, which had been reconstructed since Roman times. Near this was a group of furnaces where slag was found. Eastward they had met with the outer wall of an amphitheatre, but nothing was left of the seating arrangements; they could only say it was of late construction. It was built across one of the old Roman roads, and was possibly never finished. The most important find was an inscribed stone erected by the "community of the city or canton of the Silures" to "the Commanding Officer of the Second Augustan Legion." This shows that the cantonal organisation of Northern Gaul had been introduced into this part, and forms an epoch in our knowledge of Roman Britain. Mr. Hubb described the brooches, rings and pins discovered, Mr. Clement Reid spoke on the vegetable remains, and Professor Gowland gave an account of the process of iron manufacture as evidenced by the slag. The thanks of the meeting were accorded to Mr. Martin for his report.

CHICAGO THEATRES.

Arrangements were made by the *Chicago Daily Tribune* for a Commission to investigate the different theatres and other places of amusement in that city, and to ascertain how far the building ordinances were observed. The members of the Commission were the following:—*Architects*—Messrs. W. L. B. Jenney, C. S. Frost, J. G. Rogers and W. Holaberd. *Engineers*—Messrs. Ritter, Henderson, Shankland and Sargent. *Building Contractors*—Messrs. Ewen, Miller, Wells and Grace. *Fire Insurance Specialists*—Messrs. Lewes, Jarrot and Blervart. Their reports on thirty-four buildings have been arranged in a tabulated form with plans, and are published as a supplement to the *Chicago Daily Tribune* of January 18. For all who take an interest in the construction of theatres the information will be useful, and could not be presented in a more striking manner. Unfortunately it has to be stated that none of the theatres fully complies with existing city ordinances. The following suggestions are offered which deserve attention in other cities besides Chicago:—

We believe the theatres are such an important feature of our city that there should be a separate set of ordinances pertaining to them alone; that the ordinances be fully considered in detail, and sufficient time be given to their framing.

The more important violations found lead us to recommend the following items for consideration:—

1. An automatic sprinkler system should be installed in all cases, to be approved by the commissioner of building, fire marshal and the Chicago Fire Underwriters' Association.

2. In addition to the sprinkler system, a practical water curtain should be installed, adjacent to the proscenium arch, to be controlled by hand valves from either side of the stage.

3. A standpipe should be installed on each side of the stage, with a hose connection at each level above and below the stage, these standpipes connecting with a tank on the roof and with a fire-pump, all subject to the approval of the fire marshal.

4. In all parts of a theatre, such as dressing-rooms and so forth, a generous supply of fire extinguishers should be installed.

5. During every performance there should be in each theatre from two to four active firemen on the pay rolls of the City Fire Department, and under the control of the fire marshal.

All employees of the house should be under the control of the firemen, in so far as relates to the safety of the public, and should remain on duty until the house is empty. There should be a weekly fire drill of the employees, and a daily report made by the firemen as to the efficiency of the force and apparatus, and as to the condition of exits, corridors and aisles, to the fire marshal.

6 All exits should be left unlocked, and should open easily in such a way as not to block passages. There should be an increase of exits and a positive assurance of doors being opened by employees stationed at their posts. This is strongly urged.

7. All aisles should be spacious and lead without abrupt turns to exits, and should be free from all incumbrances, either temporary or permanent. There should be an aisle at each end of every row of seats, and the rows should be limited in length.

8. The main exits for all galleries and balconies should lead directly and separately to the streets or alleys.

9. The ordinance regarding smoke flues over the stage should be strictly enforced, and the dampers should be operated, in addition to any other device, by a mechanical device worked from each side of the stage.

10. The ordinance regarding facing on three open spaces (streets or alleys) should be enforced in spirit and intent, and there should be to these open spaces suitable exits from each floor of the theatre, with separate stairs having access to the streets or alleys.

11. The ordinance regarding levels of auditorium floor should be enforced.

12 All exit stairs should lead directly outdoors and not discharge into any other line of exits.

13. The ordinance regarding the control of lights should be strictly enforced, and, further, an independent system of lights should be installed for exits, both inside and out, and also for lighting the house.

14. All exits, stairways and outlets should be distinctly marked and also conspicuously lighted during the performance by independent safety lights, distinguishable from other lights.

15. We do not believe that the present ordinance provides for a curtain adequate for the purpose intended. As to how this curtain or movable fireproof partition should be constructed your committee is not prepared to state at this time.

16 Adequate city fire-alarm apparatus should be provided on stage and at such other places as may be required by the fire marshal. There should also be a system of local house fire-signals to be used in conjunction with the fire drill of the employees.

17. The ordinance prohibiting overcrowding or standing in a theatre should be strictly enforced, and each seat should be separated in some suitable manner from the seat adjoining.

18. All scenery and stage paraphernalia should be non-flammable. We consider this one of the most vital points.

19. Any system of ventilation of the auditorium which could draw smoke or flame therein from the stage should be avoided or suitably safeguarded.

20. The highest seat in any theatre should be at least 10 feet below the main ceiling of the auditorium.

21. All the installations for heating, lighting and power should be more carefully safeguarded, and all such temporary appliances belonging to travelling shows should be inspected and approved by the proper city authorities before being used.

We submit the above preliminary recommendations, but await the copies of the fire ordinances you have sent for from Boston, New York, London, Paris, Berlin, Vienna and St. Petersburg before completing our report.

Since we have observed in our tours of inspection so many flagrant violations, we would urge the necessity of having the building ordinances enforced.

These ordinances should, however, be modified to suit the requirements of the times, and in many cases should be made more stringent.

The Commission did not examine into the strength of the building construction, nor the details of the installation of the lighting, heating and sanitary systems. In regard to section 186, which states that "diagrams showing exits be printed on programmes, &c," and section 190, which states that a "fireman be on duty during the whole time the theatre is open to the public," we have made no statement whatever, because it is impossible to ascertain except by hearsay what has been done in these cases.

MANCHESTER ROYAL INFIRMARY.

THE annual report of the board of management of the Manchester Royal Infirmary gives a detailed statement of all matters of interest which have arisen in connection with the Infirmary during the past twelve months. Arrangements for the sale of the present Infirmary site have, in accordance with the wishes of the trustees as expressed in the resolutions passed at a special general meeting held on April 3, been made with the Manchester Corporation for the sum of 400,000*l.*, of which the first instalment of 100,000*l.* has been received. The formal conveyance of the Stanley Grove site from the Owens College to the Infirmary is in a forward state, and will, it is expected, shortly be completed. The board of management have deemed it desirable to enlarge the new site by the acquisition of three houses adjoining the Royal Eye Hospital in Nelson Street, the cost of which (irrespective of chief rents) was 8,000*l.* They have also arranged with the Manchester Southern Hospital to relinquish, upon the payment of the sum of 18,500*l*, the land adjoining Union Chapel, which had been conveyed to them by the Owens College for the erection thereon of their new hospital; and they have further agreed to pay the sum of 6,000*l.* to the Owens College in compensation for the expense involved in the removal of their bacteriological laboratory from Stanley Grove and towards the acquisition of a suitable adjacent site.

The requirements for a new Infirmary containing 500 beds, with provision for 600 beds, have been carefully considered in concert with the medical staff

Fifty-six architects desired to compete for the erection of the new buildings. Of these twelve were selected by Mr. J. J. Burnet, the assessor recommended by the President of the Royal Institute of British Architects, and the designs of these gentlemen are now receiving the careful consideration of Mr. Burnet, whose report is shortly expected

The question as to whether any, and if so what, provision should be made in the centre of the city for accident and urgent cases and for out-patients will receive the consideration of the board as soon as the plans of the new Infirmary are decided upon.

The sum of 13,178 9*s.* 7*d* has been received from the committee of the Queen Victoria Commemoration Fund to be specially appropriated as a permanent memorial of the late Queen in connection with the new infirmary.

ENTHUSIASM FOR SCULPTURE.

OWING to illness Mr. Alfred Gilbert, R.A., was unable to deliver his course of lectures to Academy students Mr. W. R. Colton, A.R.A., on Monday addressed them on "Enthusiasm in the Pursuit of Sculpture." He said that as he could not compete with the great men who had lectured there in the past, and as he had not himself solved half the problems of his art, he would try to inculcate the value of enthusiasm. Later in the year he hoped, as Visitor in the schools, to stimulate them yet more in the sacrifice of time money and even health in advancing their beautiful art, the practice of which was so tedious, difficult and time-consuming that without enthusiasm their career could neither be pleasant nor successful. As a student he had seen a prize won, a gold medal gained, put a stop to a man's whole work; the dazzle of seeming success was not equal to that gift, enthusiasm. Infinite pains, capacity for which was said to be genius, could not be taken without enthusiasm, and another direction for it was in seeking out the beauty from the academy of nature, who had, perhaps, given with too lavish a hand, as only an atom of her beauty could be used in sculpture, and that might have been used before. England had greatly advanced in sculpture during the last thirty years, and the students should put their shoulders to the wheel and push it further, keeping in view the vital power of a race between the nations He was hopeful of the future, for if more ideal work were done, demand for it would naturally arise, and signs of this were not wanting, as small *objets d'art* were leading up to appreciation of form on a larger scale. It was permissible to say what one would in sculpture, but it must be in the clearest and most emphatic language, and before thinking of what to say they must learn to speak, for "a little thought said beautifully was better than a great thought badly intoned." Sculpture must be approached seriously even on its light and fanciful side, and he deplored the sketchy tendency when a piece could only look well in one light or at a great elevation. Work of this kind would not have popularity for long, and the student's motto should be "a fine idea, finely executed." He touched on the neglect, too often shown, of care in doing the extremities, and when he referred to the modelling of flesh, he pointed to the careful work given to surfaces of figures placed high by Greek sculptors, such as those on the Parthenon pediment. Regarding the question of modelling, he said bones were the bugbear of the schools, and it was considered the highest condemnation to say that a work lacked bony form. Too great insistence on bone was deathlike and ugly. In nature those bones near the surface were softened by flesh, fat and skin, and it was a wilful flinging away of one of the greatest charms if skin were forgotten, so, when starting out to copy life, care should be taken that it did not render death. Knowledge of bones should be thoroughly mastered and then set aside, so as not to give the ugly frame which nature herself tries to conceal. The wonder of the human body was its power to move in all directions, and in this, flesh, with its soft elastic skin, gave the beauty of suppleness to bony construction, which they should always remember was under the skin. Putting portraits aside, the finest work should represent an idea rather than a thing. Morbid curiosities were easily created and required little skill, but even an artist born a dreamer must bend to the wheel of labour, and to be really great labour must be hard, and for this enthusiasm was needed. Mr. Colton alluded to the strenuousness and self-sacrifice of Harry Bates, Onslow Ford, Alfred Stevens, and the French sculptor who was found dead in his bed, of cold, he having used the blankets to keep his modelled figure in condition. He laid stress on the value of being sympathetic, giving thought to purpose, placement, &c., of a work, and, as an instance, he said a noble lord had asked him to design a fountain for a shady garden, and he made a model of a wood nymph holding a leaf from which the water trickled, but the noble lord wanted something grander, and suggested Moses striking a rock from which the water would gush. This idea was not after Mr. Colton's own heart for a leafy garden position, and he did not carry it out, but he hoped to execute his wood-nymph fountain some day.

VICTORIA MEMORIAL, DUBLIN.

THE committee for the memorial statue of the late Queen, having fully considered the subject, decided to accept the designs of the Irish sculptor, Mr. John Hughes. The artist has left Dublin and established his studio for the work in Paris, and is progressing well, being hard at work just now upon the figure of Fame, whose place will be at the back of the monument, and also upon the groups representing Peace and War, which will be placed upon the sides of the pedestal.

An important question was the stone of which the pedestal should be constructed. For this the committee desired to employ native limestone, but were advised that from a technical point of view there were serious objections to its use. It has, therefore, been decided, after full inquiry to employ the stone of the quarries of Chauvigny, of which many of the best public buildings and the most celebrated statuary in Paris have been constructed. The Chauvigny stone has the tremendous advantage of hardening to a steel-like surface by exposure, from which the effects of Dublin soot may be easily removed. The base course on which the pedestal will stand will be of selected Irish granite.

Before fixing finally the size and form of the pedestal, which will depend on the final disposition of the figures, Mr. Hughes will, in fulfilment of the terms of his contract, call to his aid as collaborator an architect of eminence to be approved of by the committee to advise as to this part of the work.

The sculptor was given five years from the date of his appointment to complete the work. This will not seem too long when it is remembered that there are no less than nine figures in the groups, all over life-size. Mr. Hughes expects to finish well within his time.

A correspondent of the *Irish Times* asks, in reference to the proposed stone, 1st, Where is Chauvigny? 2nd, Where has this remarkable stone been seen in Irish and Dublin climate to "have the tremendous advantage of hardening to a steel-like surface by exposure?" French oolitic freestones are well enough known to stand exposure in the structures of Paris. What subscribers to the Dublin memorial do know of such French stones is that when a very eminent English architect, with great confidence, employed such in St. Patrick's Cathedral in 1845 it was to be seen in utter disintegration and ruin in less than 50 years, and has now been replaced with British stone at a cost of some thousands of pounds. They also know when a very eminent and positive English architect employed French stone in Christ Church, Dublin, in 1878, with like assertion and confidence, it may be seen now in hopeless decay, and some thousands of pounds are urgently wanted to replace it. There is not anything more than mere assertion in place of proof to give any more confidence in the "stone of Chauvigny" as a selection for the trying climate of Ireland. Technical and perhaps not uninformed expert persons will want to know a little more of what is the "technical" serious objection to "our native Irish limestone," or beyond that, to a British stone well tried to last in Irish climate. By whom advised they will want to know, which subscribers interested are entitled to know before attaching any weight to mere assertion.

THE BODLEIAN PICTURES.

A COMMITTEE of the curators of the Bodleian Library—the President of Trinity, Mr. T. W. Jackson and Mr. C. Plummer—are circulating an appeal to the colleges and to Oxford men past and present in the hope of raising a fund which may save from destruction the remarkable collection of old portraits in the Bodleian Library. The state of these pictures has long been known to be deplorable, and past generations of curators cannot be acquitted of blame for having allowed them to pass into such a dangerous state. At last the authorities, under the advice of Mr. Lionel Cust, called in Messrs. Haines, who have lately put in order the pictures at Windsor, Hertford House, &c., and obtained a report from them as to the cost of the necessary repairs. The total estimate amounts to a little over 1,000*l* for the restoration and relining of the pictures and about the same sum for repairing and regilding the frames and for incidental expenses—say 2,100*l*. in all. It is obvious that, in the present state of the University finances, no such sum or anything like it can be voted by Convocation, which, indeed, has found it impossible to grant more than 100*l*. The appeal to the colleges and to private persons in Oxford has thus far brought in about 700*l*. more, so that 1,300*l*. still remains to be raised from subscribers outside. The Bodleian is so thoroughly a national institution, and the persons represented in the picture gallery are in many cases so important historically, that this appeal can hardly be made in vain. Up to the present about thirty-two pictures have been put in order by Messrs. Haines, including portraits of William of Waynflete, Thomas Cromwell, Gardiner and Cranmer, Lord Burleigh, John Selden, Ben Jonson and Isaac Casaubon. About a hundred more are in urgent need of repair; they include portraits of James II. and Mary of Modena, Kneller's full-length portraits of King William and Queen Mary, Sir Thomas Browne, Archbishop Laud, Joseph Addison, Abraham Cowley and Lord Falkland. Intending subscribers are invited to communicate with the Rev. C. Plummer, Corpus Christi College, Oxford.

SOCIETY OF ANTIQUARIES OF SCOTLAND.

THE monthly meeting of this Society was held in their library at the National Museum of Antiquities, Queen Street, Edinburgh, on Monday evening, Dr. Robert Munro, vice-president, in the chair. The first paper was a description, with plans and drawings, of the ancient forts in the parishes of Kilmartin, Kirkmichael Glassary and North Knapdale, Argyllshire, by Dr. David Christison, secretary. Having formerly recorded and described the forts of the Lorne district, numbering fifty-eight in all, the author in his present paper designed to put on record twenty-two of the thirty-four forts in the immediately adjoining district to the south of Lorne, only two or three of which have been hitherto properly described. Mr. Andrew W. Lyons described most of the surviving examples of the very quaint style of decorative painting so prevalent throughout Scotland from the beginning to the middle of the seventeenth century. Most of these tempera-painted roofs are in castles, mansion-houses or small churches, which after disuse for worship were converted into mausoleums, and usually bear evidence by dates, armorial bearings or badges, of having been executed after the union of the Crowns in 1603. The work generally is exceedingly good, its characteristic features being simplicity, breadth and boldness of treatment, both in design and execution. Carefully executed coloured drawings of each of the following existing examples of painted ceilings were exhibited and described, viz. Aberdour Castle, Fifeshire, dated about 1636; Collairnie Castle, Fifeshire, 1607; the chapel of Falkland Palace, 1633; Earlshall, Fifeshire, 1620; the chapel of Stobhall Castle, Perthshire, 1633; the church of St. Mary, Grandtully, Perthshire, 1636; Balbegno Castle, Kincardineshire; Cessnock Castle, Ayrshire; Nunraw House, Haddingtonshire, and Pinkie House, Musselburgh, about 1613. Mr. W. M. Mackenzie gave descriptions, illustrated by photographic views, of a number of structures of archaic type, stone circles, &c., in the island of Lewis. As to the origin of these structures the author was inclined to differ from Captain Thomas's view of their comparatively recent erection, and to assign them to an earlier period, as the shielings of a people semi-pastoral in their modes of life. He then went on to describe the stone circles of the island of Lewis, including the magnificent example at Callernish, with its central cairn and avenues of standing stones, and the two smaller but interesting groups further up the shores of Loch Roag.

THE INDIAN VICTORIA MEMORIAL.

AT a meeting of the Indian Victoria Memorial Fund Trustees, held under the presidency of Lord Curzon on January 15, it was decided to proceed at once with the laying of the concrete bed of the foundation of the proposed great memorial-hall to be built on the Calcutta Maidan, thus enabling Sir W. Emerson to supervise this part of the work during his present stay in Calcutta. Careful inquiries have been proceeding for some time past into the quality and suitability of marbles that are procurable in India, the trustees being anxious to employ Indian material to the fullest extent possible; but it is considered improbable that they will be able to obtain the whole of the marble required, amounting to 200,000 cubic feet, within the country. An exhibition of objects in connection with the memorial-hall is to be held this month in Calcutta, and includes all the plans, sketches and drawings prepared by Sir W. Emerson, samples of marbles likely to be used in the building, the collection of large oil-paintings of events in the life of Her late Majesty presented by the King-Emperor, gifts from other donors, and memorials of the Delhi Durbar, among them being the signed message of the King-Emperor to the Indian peoples.

TESSERÆ.

Picture Dealers.

BEFORE dealers came into the modern picture-market prices were low. The dealers have done more than any other class to enhance the market value of modern art. They may do this by puffing their own pictures, but the mere fact that many modern works have, through their agency, fetched great prices has increased the general scale of payment to contemporary artists. They seek, of course, as all merchants do, a profit on their acquisitions, and this profit is in some instances very large, 100 per cent. or more, but the profit they seek varies with the risk they run. A dealer does not usually profit very much in a direct way by his speculations in the works of men who would be sure of customers without him, and when he expects a large profit it is because he is not sure of an immediate return. When an artist of established reputation sells to a dealer, he does not do so under the pressure of necessity, but because he finds the transaction convenient to himself. When a struggling artist sells to a dealer, he knowingly sacrifices a chance of future advantage to the certainty of immediate payment. The reasons why artists go to dealers are mainly these. It is more satisfactory to sell to a dealer than to a "patron," because the transaction involves no subsequent hesitation or annoyance. Commissions received directly from gentlemen are almost invariably attended by the unpleasant feeling that, although the gentleman has paid for his work, it may not quite suit him when he sees it. Even eminent artists complain that work done on commission direct from collectors leads to frequent misunderstandings. With the dealer these misunderstandings are much less liable to occur, because he looks on the matter simply as one of business. In short, the dealer and the artist understand each other more readily than the artist and his unprofessional customer. On the other hand, the buyer goes to a dealer for a reason of his own. He does not trust himself. He feels his ignorance of art, and hesitates to buy that which has not before been bought. An ordinary buyer is more disposed to give 700*l*. for a picture which a dealer has bought for 500*l*. than to give 500*l*. directly to the artist. The best recommendation for any picture is to have fetched already a considerable price. If buyers believed in their own judgment, of course the dealer would cease to exist, but there is no probability of this, and the dealer knows that his place is secure.

Pompeian Houses.

The *coup d'œil* on entering a Pompeian house must certainly have been not a little picturesque and scenic, full of variety and contrast, rich in the lengthened perspective of the vista, and piquant from the well managed opposition of light and obscurity. But after the first pleasing impression had subsided, we should have found that it was rather the mere picture than the reality of a house, without hardly a single room of decent dimensions except the triclinium, and without any other communication between the different apartments except through the atria, thereby rendering the best part of the house a common thoroughfare for the whole family. There were no suites of rooms, in fact, hardly any two contiguous ones opened into each other; and as few of them had any window, they had probably no other door than a drapery. In such dwellings there must have been all the discomfort arising from confinement without any of its privacy, and when we add to the above circumstances the want of chimneys and the inconvenience of having kitchens, domestic offices, bed-chambers and other rooms all on the same floor, we may estimate without much danger of envy the domestic life of the ancients, and, notwithstanding their marble and mosaic floors, statues and candelabra, and all the pomp of embellishment, be permitted to exclaim, in the words of one of their own poets, *Quàm bene non habitas!* Even as regards the architecture alone they do not appear to have attended at all to symmetry in the disposition of doors, which are placed just as accident determines, and in utter violation of anything like regularity. The addition of an upper floor would have rendered the houses infinitely more convenient by affording bed-chambers not only comparatively quiet and secluded, but also enjoying some advantage of light and air; nothing, however, of the kind has hitherto been discovered at Pompeii. Some remains of staircases have, indeed, been met with, but so narrow and ill-constructed that they were probably formed merely to afford access to the terrace roof. Neither are there any ceilings remaining, which would hardly have been the case —or at least some portion of them would have been left, and the remains of the walls would have been more considerable—had any upper rooms to the houses existed. The apartments, moreover, in private houses appear to have been far from lofty, and this will account for the soil and soot occasioned by the smoke of lamps as well as that from braziers. We very much doubt, indeed, whether the ancient masters of Italy excelled their modern descendants in habits of cleanliness either in their houses or persons; for notwithstanding the constant use of the bath, the gentry of those days must have been in a rather frowsy condition owing to the want of body linen, nor does their profuse application of unguents accord exactly with our notions of personal neatness Well adapted as their costume was to painting and sculpture, it could hardly have been very convenient or particularly attractive in reality, and a Roman fine lady in her blanket-like attire would cut a more dowdy than decent figure in a modern drawing-room.

Early Time Measurers.

Though the gnomon or sun-dial certainly seems to have been in use among the Egyptians, we are not aware of any example of the kind having been met with in that country. By Herodotus the invention is attributed to the Babylonians. The earliest actual notice of it we possess is the well-known one of the sun-dial of Ahaz Its introduction into Greece is generally attributed to Anaximander. The dial, gnomon, was probably, in its origin, no more than an upright pillar or staff, the hours being measured by its shadow, which was marked off into feet along the ground where the shadow fell. It was, of course, extremely imperfect as an indicator of time, and it was impossible by it to divide the day into twelve equal spaces. The polos or heliotropion, of which our museums contain several, was of a more scientific construction. It consisted of a basin of stone or marble, in the middle of which the staff or index was erected, throwing its shadow upon six or twelve meridian lines drawn from it as a centre to the circumference of the concave surface. The general name for instruments, of whatever kind, for measuring time was horologium, whether it referred to a sun-dial, clepsydra, sand-glass or clock. The period of the first introduction of the clepsydra is not known, but these contrivances are said to have been common in Egypt before they are met with in Greece. Plato made himself a night-clock of that sort, and Bato, the comic writer, a century later, speaks of them as in common use, according to Athenæus. The clepsydra was used in the courts of justice at Athens to measure the time allowed for speaking, as we learn from the amusing passages in Aristophanes, as well as from allusions by the orators. Its form and construction may be seen very clearly from a passage in the "Problems" of Aristotle. A great improvement was introduced in the horologion hydraulikon of Ctesibius of Alexandria about B.C. 150, which is elaborately described by Vitruvius. It combined wheelwork with the action of water, and the hours were pointed out by a small statue holding a wand. The so-called Temple of the Winds at Athens, besides exhibiting a dial, appears to have been a clepsydra on a large scale. The first horologium in use at Rome was a sun-dial, solarium, set up, according to some, by Papirius Cursor, B.C. 292; according to others, by M. Valerius Messala, from the booty of Catana, B.C. 263. This was made for a different meridian, and showed time very incorrectly. The first dial regulated to the meridian of Rome was set up by Q. Marcius Philippus. P. Scipio Nasica in his censorship, B.C. 159, established the first public clepsydra. Water-clocks were in general use in Cæsar's time for measuring the night-watches, and by a law of Cn. Pompeius, B.C. 52, they were introduced into the courts of Rome, as at Athens, as a check upon the speakers. A kind of water-clock was found in use in Britain by Cæsar, and there is good presumption, from the arithmetical treatise of one Bhascara Acharya, written in the twelfth century, that they were early used in India.

Cleeve and Dunster Churches.

In West Somerset we find, very near each other, the Abbey of Cleeve and the Priory of Dunster. The difference between the condition of the two must strike the most untechnical eye. At Cleeve the church is gone, while the magnificent monastic buildings, the refectory, dormitory, &c., are nearly perfect. At Dunster the church is perfect and prominent; the monastic buildings are of little account and the church has so little of monastic character about it that one who saw the outside only might easily pass it by as being simply a parish church of unusual size. What is the cause of these differences in the present condition of these two monasteries? Cleeve was a Cistercian abbey; it was therefore planted by itself, not close to any town or village. Dunster, a Benedictine house, is as naturally found in what, small as it is, passes in that thinly inhabited country for a market-town. From this it necessarily follows that the church at Cleeve was purely monastic, an exclusive possession of the monks, and it all but necessarily follows that the church at Dunster was at once parochial and monastic, a joint possession of the monks and the people. We see therefore why Dunster Church still exists, while Cleeve Church has vanished. The parochial character of Dunster Church necessarily saved it or part of it. The grantee of Cleeve had no need for the church and so pulled it down, while the monastic buildings could easily have a use found for them, as they have to this day. But more than this, Dunster was not an independent abbey, but a mere dependent priory, a cell to the cathedral monastery of Bath. In such a case the parish, especially when it contained so powerful a parishioner as the lord of the neighbouring castle, was more important than the monastery, and therefore the parochial and not the monastic character is that which is most deeply impressed on the church which was common to both. But further still, a little investigation shows that Dunster is as perfect an example as can be of the arrangements which were commonly followed when churches were common to monks and people. In such cases the absolutely common possession was generally found to be inconvenient to both parties. Some compromise or division was almost always made, often as the result of an open quarrel. Most commonly the church was divided into two churches, the western part becoming the exclusive property of the parishioners and the eastern part the exclusive property of the monks. Nowhere is this arrangement more plain than at Dunster, where we see a perfect church, with its nave, choir and high altar, all west of the central tower, with another choir and high altar east of the tower, the tower itself making a sort of nave to the eastern church. Nowhere, save in the little conventual church of Ewenny in Glamorganshire, can the arrangement be seen so perfectly preserved. But here another question forces itself on us, Why is it so perfectly preserved? In nearly every other case of this once common arrangement the monastic portion has been destroyed or dismantled, or, in some rare instances, added to the parochial portion. At Dunster almost alone it survives still untouched and still distinct. Why has the course of things at Dunster been different from the course of things at Waltham, Binham, Wymondham, Usk, Chepstow, Bridlington and a crowd of other places? The local history at once explains the cause. In most cases the monastic property, and with it the monastic portions of the churches, came into the hands of strangers utterly indifferent to local associations. At Dunster by great good luck the priory fell into the hands of the owners of the castle, who respected the tombs of their forefathers who were buried within the monastic church. While therefore other churches of the same class were destroyed or ruined, the monastic church of Dunster remains, disused indeed and partly dismantled, but not otherwise hurt.

Greek Prytaneia.

The prytaneia of the ancient Greek states and cities were, to the communities living around them, the common houses of which they in some measure represented what private houses were to the families which occupied them Just as the house of each family was its home, so was the prytaneion of every state or city the common home of its members or inhabitants, and was consequently called the estia poleos, the "focus" or "penetrale urbis." This correspondence between the prytaneion, or home of the city, and the private home of a man's family, was at Athens very remarkable. A perpetual fire or pyr asbeston was kept continually burning on the public altar of the city in the prytaneium, just as in private houses a fire was kept up on the domestic altar in the inner court of the house. The same custom was observed at the prytaneium of the Eleans, where a fire was kept burning night and day. Moreover, the city of Athens exercised in its prytaneium the duties of hospitality, both to its own citizens and strangers. Thus foreign ambassadors were entertained here, as well as Athenian envoys on their return home from a successful or well-conducted mission. Here, too, were entertained from day to day the successive prytanes or presidents of the senate, together with those citizens who, whether from personal or ancestral services to the states, were honoured with what was called the sitesis en Prytaneio, the "victus quotidianus in Prytaneio," or the privilege of taking their meals there at the public cost. This was granted sometimes for a limited period, sometimes for life, in which latter case the parties enjoying it were called aeisitoi. The custom of conferring this honour on those who had been of signal service to the state and their descendants was of so great antiquity, that one instance of it was referred to the times of Codrus; and in the case to which we allude the individual thus honoured was a foreigner, a native of Delphi. Another illustration of the uses to which the Prytaneium was dedicated is found in the case of the daughters of Aristides, who on the death of their father were considered as the adopted children of the state and married from that common home of the city, just as they would have been from their father's home had he been alive. Moreover, from the ever-burning fire of the prytaneium, or home of a mother state, was carried the sacred fire which was to be kept burning in the prytaneia of her colonies; and if it happened that this was ever extinguished, the flame was rekindled from the prytaneium of the parent city. Lastly, a prytaneium was also a distinguishing mark of an independent state, and is mentioned as such by Thucydides, who informs us that before the time of Theseus, every city or state (polis) of Attica possessed a prytaneium. The Achæans, we are told, called their prytaneium leïton, or the "town hall," and exclusion from it seems to have been a sort of civil excommunication.

Etching for Amateurs.

Etching is unfit for amateurs for the following reasons:—1. It is almost a blind process; the artist does not half see what he is doing; his lines are copper colour on black, instead of black on white, therefore he has to reason out his effect but cannot see it. 2. The process requires absolute and instantaneous decision; it admits of no seeking and comparatively little correction. 3. It requires the highest possible faculty of abstraction, that is to say, the power of at once selecting and firmly drawing the essential lines, every non-essential line being so much active badness in the work. Now a process to suit amateurs should be the very reverse of all this. 1. The work whilst in progress should be easily and completely visible. 2. The process should admit of any amount of hesitation and correction. 3. It should require as little abstraction as is consistent with the interpretation of nature. So far is etching from being suitable as an amusement for ladies and gentlemen who suffer from *ennui*, that it is not even fit for the most skilful painters unless they possess the faculty of abstraction to a degree very unusual amongst artists. Hundreds of painters have tried to etch and have failed.

GENERAL.

Sir Wyke Bayliss, president of the Royal Society of British Artists, will deliver a lecture before the Society of Designers on the evening of the 23rd inst. at Clifford's Inn, on "The History and Authenticity of the Commonly Received Likeness of Christ." The lecture will be illustrated by drawings and photographs of very early examples from the museums of the Vatican and Lateran.

Sir Charles A. Hartley, K.C.M.G., M.Inst.C.E., has been elected a member of the Athenæum Club under Rule II, which empowers the annual election by the committee of nine persons of distinguished eminence in science, literature, the arts, or for public services. Sir C. Hartley's election is by reason of his connection with the European Commission for improving the Danube, to which he was appointed engineer-in-chief in 1856 and consulting engineer in 1872.

A Memorial to the victims of the Iroquois Theatre fire is to be erected in Chicago by public subscription. Steps have already been taken to purchase the site on which the theatre stood as the most suitable place for such a monument.

An Exhibition will open at the Brussels Museum about the end of the month illustrating the effect which the work of the "impressionists" and "new-impressionists" has had upon international art. The pictures comprise works by twenty-six painters, and have been loaned by private collectors.

The Parliamentary Estimates for 1904-5 will include provision for continuing the improvements in the House of Commons as contained in the report of the select committee. Immediately after the report of last year's committee on ventilation experiments were instituted for the purpose of determining details incidental to power of fans, velocities of air passing through washing screens, &c, and the results of these experiments has only recently been recorded. The various works will be proceeded with during this year.

The Paris Municipal Council have designated the square formed by the junction of the streets Auber and Scribe the Carrefour Charles-Garnier.

An Exhibition of old pewter plate, both English and foreign, will be held in Clifford's Inn Hall, Fleet Street, E.C, from February 24 to March 26. Four lectures on the history, the manufacture, the decoration of the metal, the pewterers' marks and touches will be given on March 2, 9, 16 and 23, at 8.30 P.M., illustrated by the examples in the exhibition.

A Castle of Coal is the form chosen for the exhibit of the Indiana mining industries at the St. Louis Exposition. It is to be in the Mediæval style, 15 by 15 feet in plan and 30 feet high, built wholly of Indiana coal.

The Postmaster-General has stated that the contemplated acquisition by the Government of the site of Christ's Hospital will not be subject to the arrangement agreed to between the Corporation of London and the Governors of Christ's Hospital for making a street 50 feet wide between Giltspur Street and King Edward Street and for the widening of the latter thoroughfare. The reason given is that any such scheme would render the property entirely unsuitable for the purpose for which it is required by the Post Office. A strip of land is left at the disposal of the Governors with a view to the widening of King Edward Street.

The "Pall Mall Gazette" will secure a new sphere of usefulness by its Saturday edition, which will be compiled mainly for the use of country readers. A weekly paper with such articles as are characteristic of the *Pall Mall Gazette* has been desirable, and the enlarged Saturday edition, we are sure, will be enjoyed not only in the provinces, but in the colonies. All worthy aspects of English life are represented.

The American Society of Civil Engineers has acquiesced in the appointment of a committee to co-operate with similar committees of other societies in an investigation of concrete-steel construction.

Last Week we described a scheme originated for the purpose of obtaining a systematic record of ancient British fortifications. Mr. I. Chalkley Gould, secretary to the committee, has requested us to state that he would be pleased to supply every information on the subject from the Royal Societies Club, St. James's Street, S.W.

Lord Kitchener has been elected an honorary member of the Institution of Civil Engineers.

The Japanese Collection of the Louvre has been enriched by a portrait of Jo-Tchin, a Japanese priest, a work of the thirteenth century. It was the most prized example of the Gillot collection, and efforts were made to purchase it by representatives of several foreign museums.

The Memorial Exhibition of the works of the late Mr. Whistler will be open at Copley Hall, Boston, on February 24. The exhibition will consist of oil-paintings, water-colours and pastels, as well as a representative collection of etchings, lithographs and drawings collected from America, London, Paris, Glasgow and Montreal. The trustees will lend from Mr. Whistler's studio in London pictures which have never yet been seen by the public.

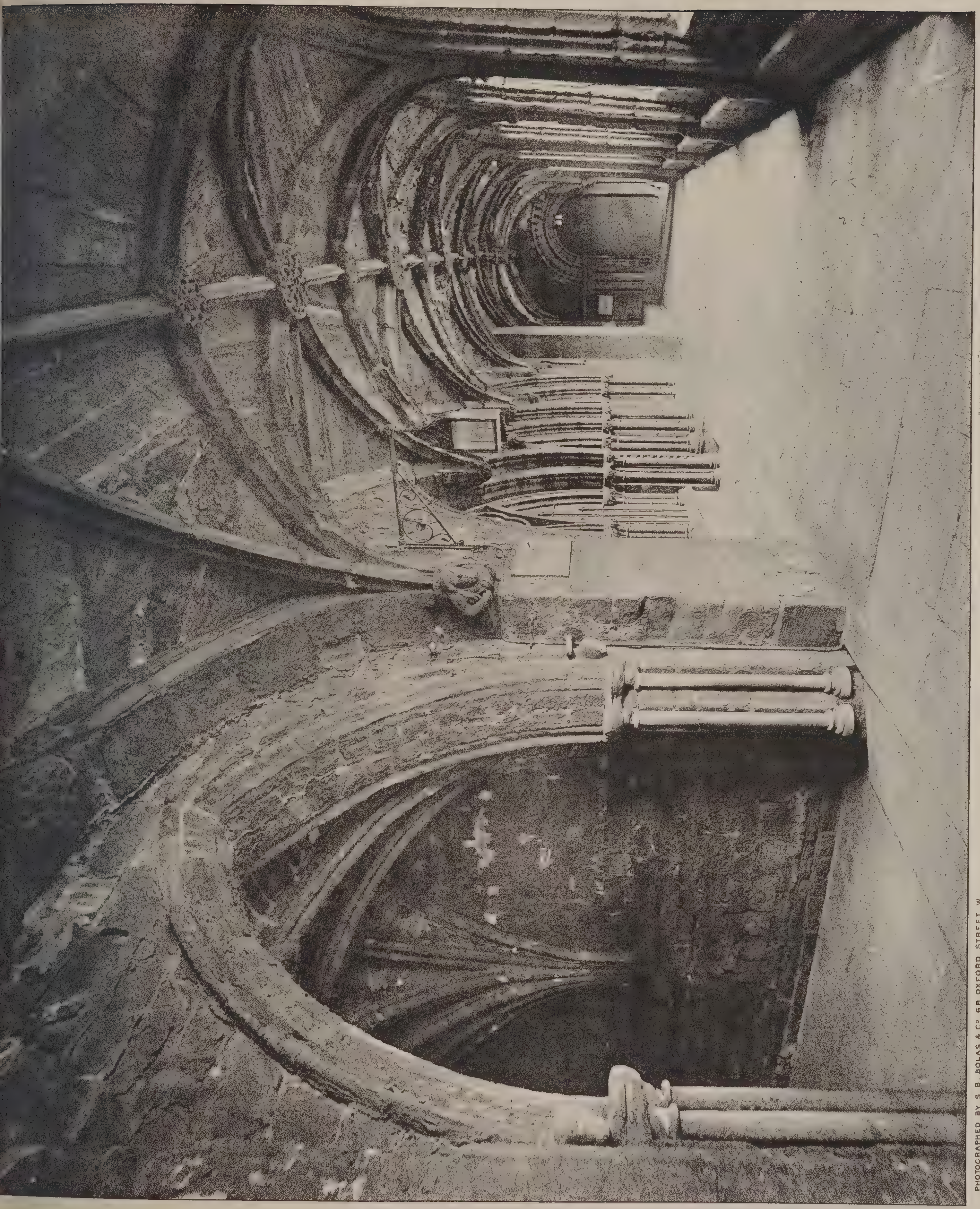
Application is to be made to the French Chamber for a vote of 100,000 francs to enable photographs to be taken of the most important manuscripts in the national collections.

The Officers of the Société Nationale des Beaux-Arts for 1904 are:—President, M. Carolus-Duran; vice-presidents, MM. Roll, Rodin, Waltner, A. Besnard; secretaries, MM. Béraud and Billotte; treasurer, M. Dubufe.

The Surveyor to the Clacton-on-Sea Urban District Council, Essex, reported a serious subsidence of the cliffs in consequence of the recent gales. The subsidence took place at a spot where the cliffs are most protected by a stone wall and groins on the foreshore. The Clacton-on-Sea Commissioners propose to appeal to the Government for financial assistance in preserving the coast line, and a similar appeal is to be made by the adjoining parishes of Frinton and Walton-on-the-Naze.

The Institution of Civil Engineers will hold an ordinary meeting on Tuesday, February 16 next, when a paper on "The Forms of Turbines most Suitable for Low Falls" will be submitted for discussion by Alphonse Steiger, M.Inst.C.E.

The St. Andrew's Street Baptist church, Cambridge, was opened on January 28 after rebuilding from designs by Messrs. G. & R. P. Baines, architects, 5 Clement's Inn, Strand, London, W.C. The cost has been about 9,000*l*. The church has a bold front faced with whole white flints and stone dressings a lofty square tower with spirelet, and seating accommodation for over 900 persons.



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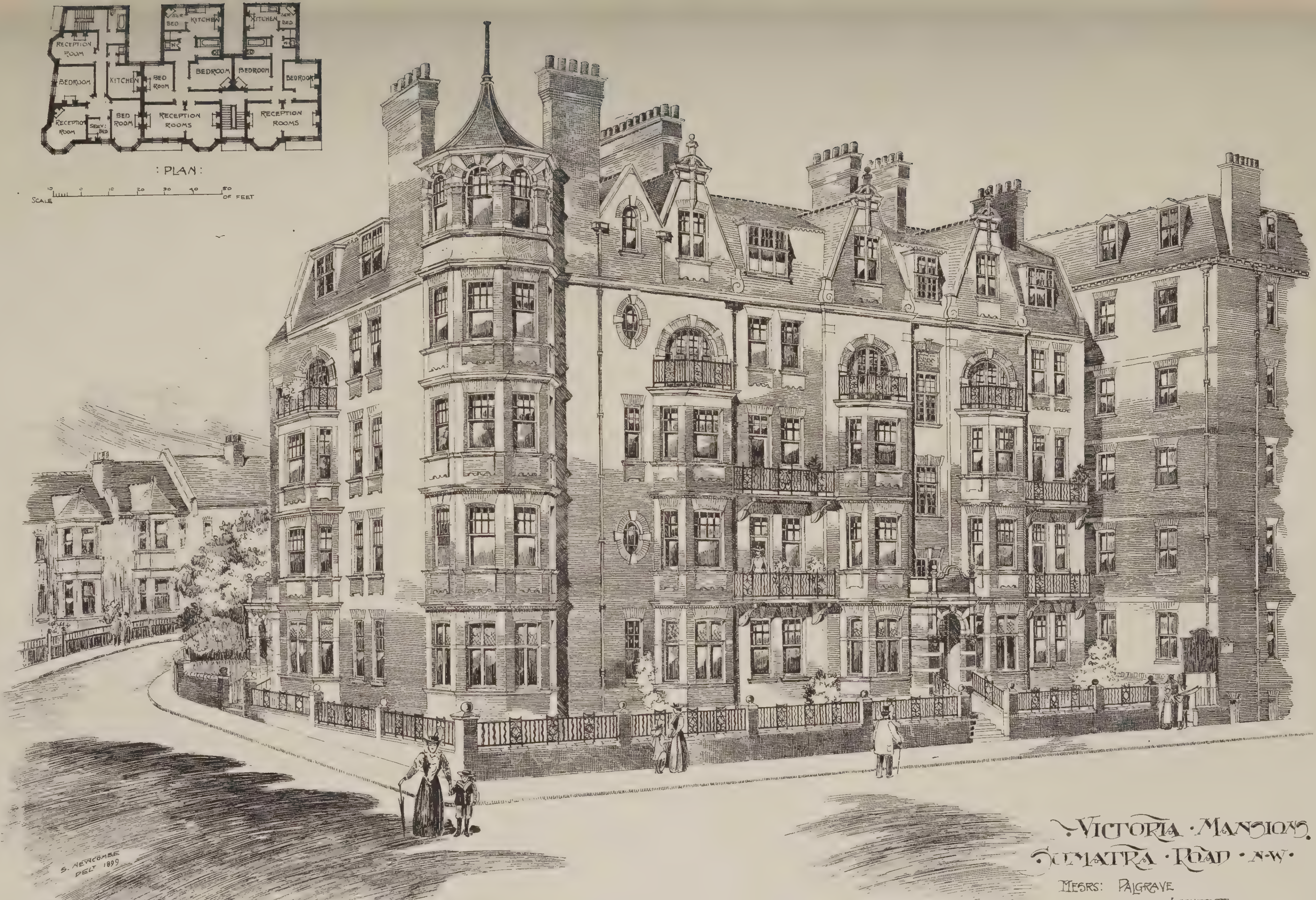
CATHEDRAL SERIES, No. 481.—CHESTER: THE CLOISTERS.



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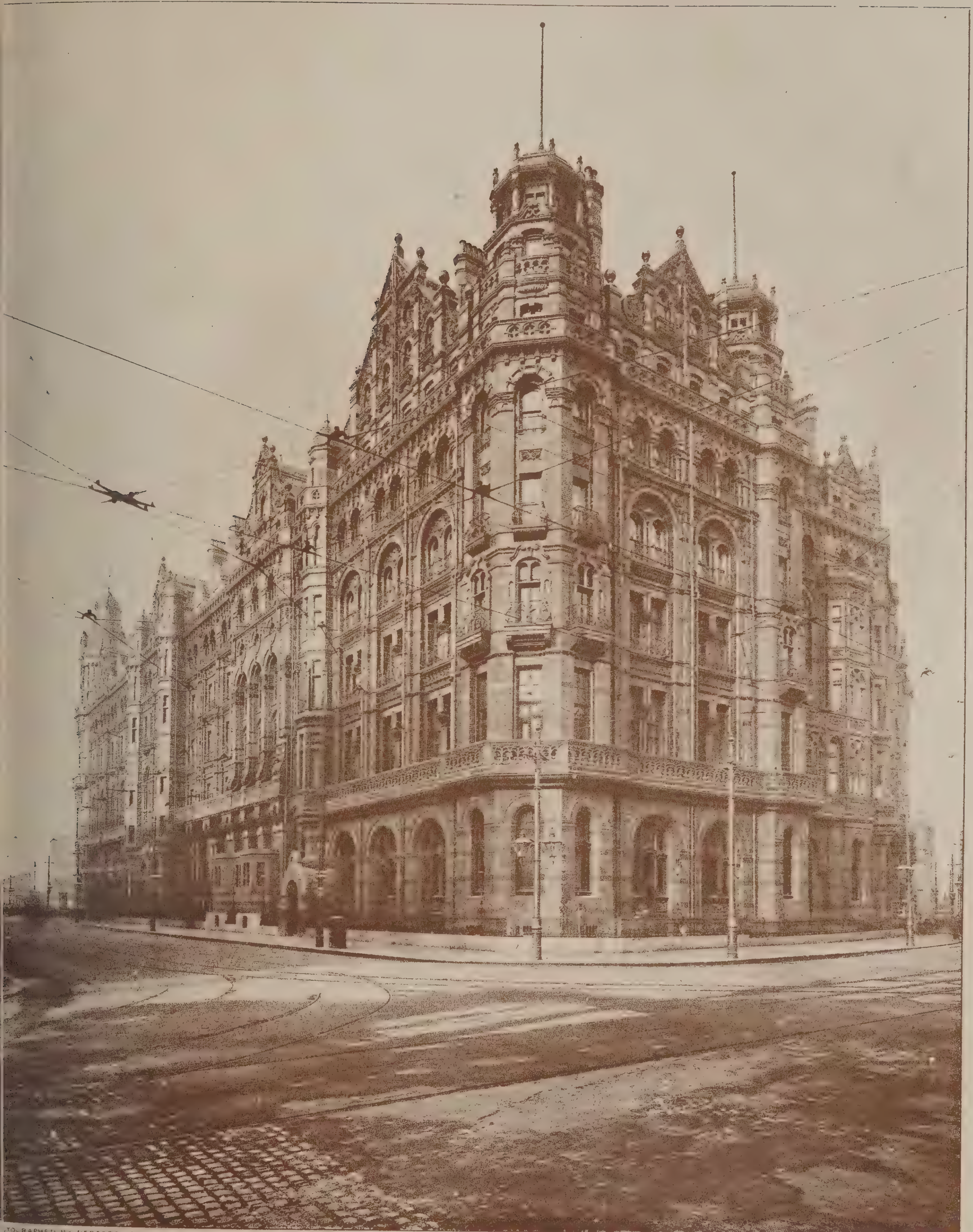
The Architect, Feb: 12th 1904



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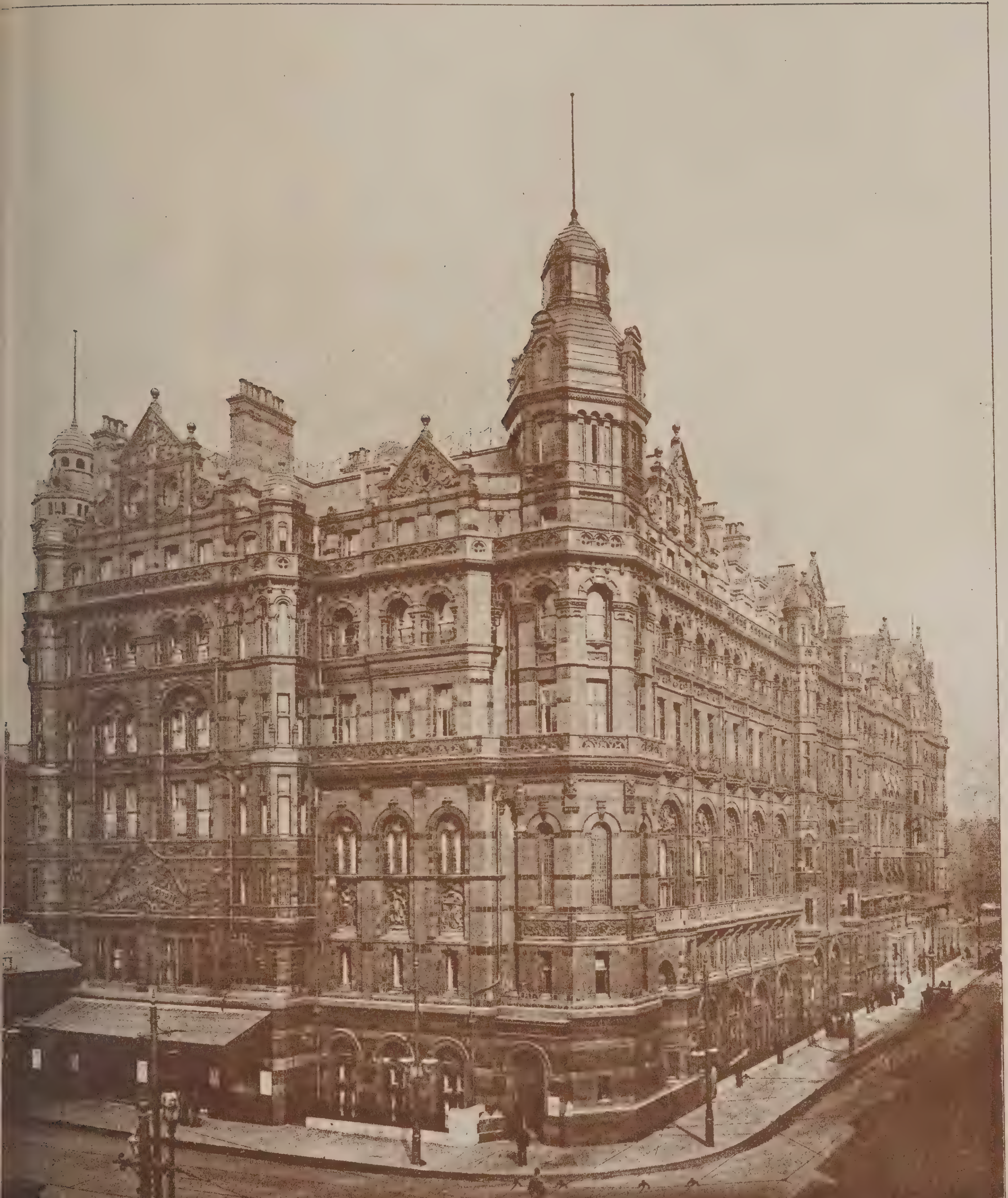
MIDLAND HOTEL, MANCHESTER.

CHARLES TRUBSHAW, F.R.I.B.A., Architect.



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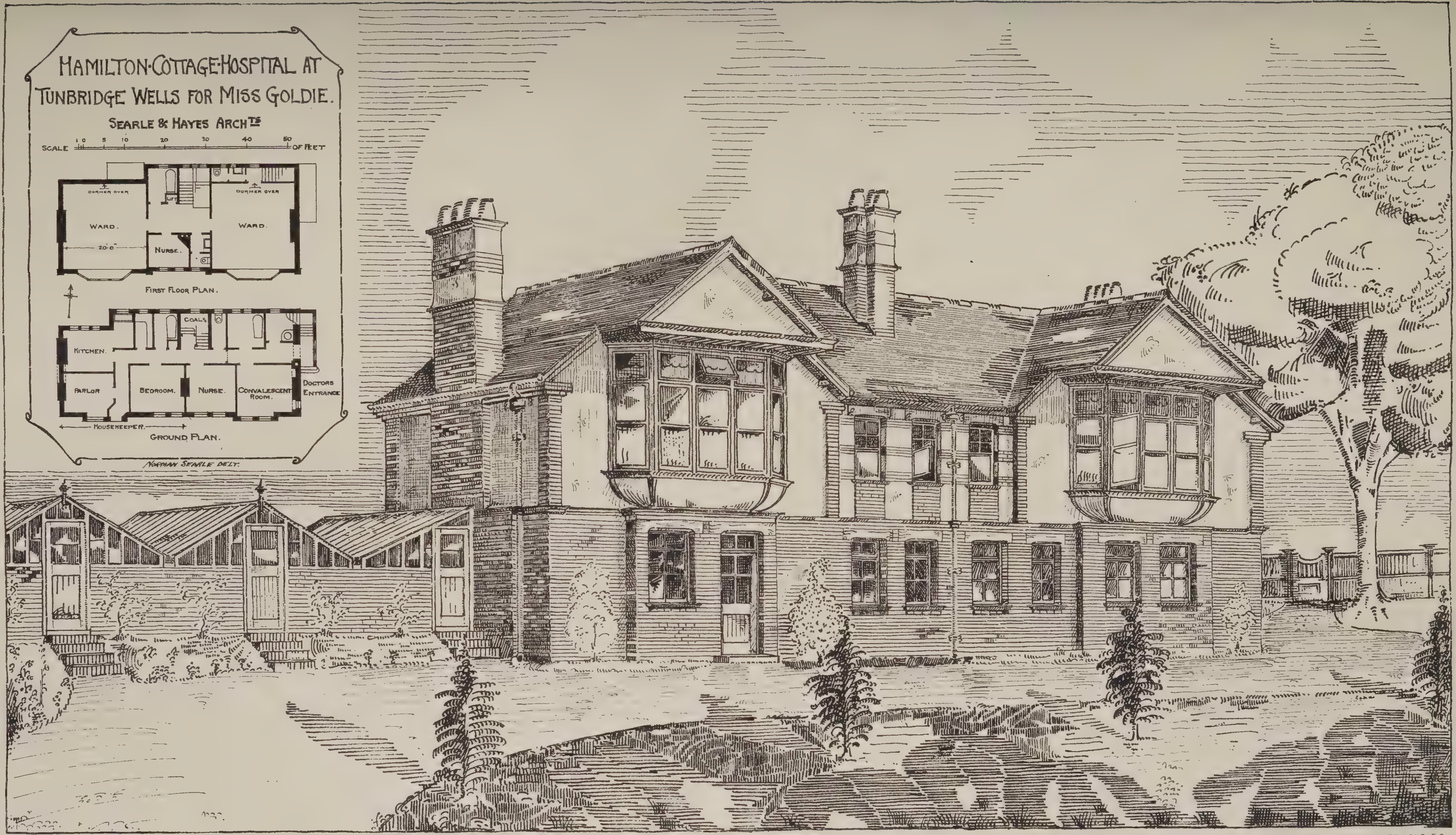

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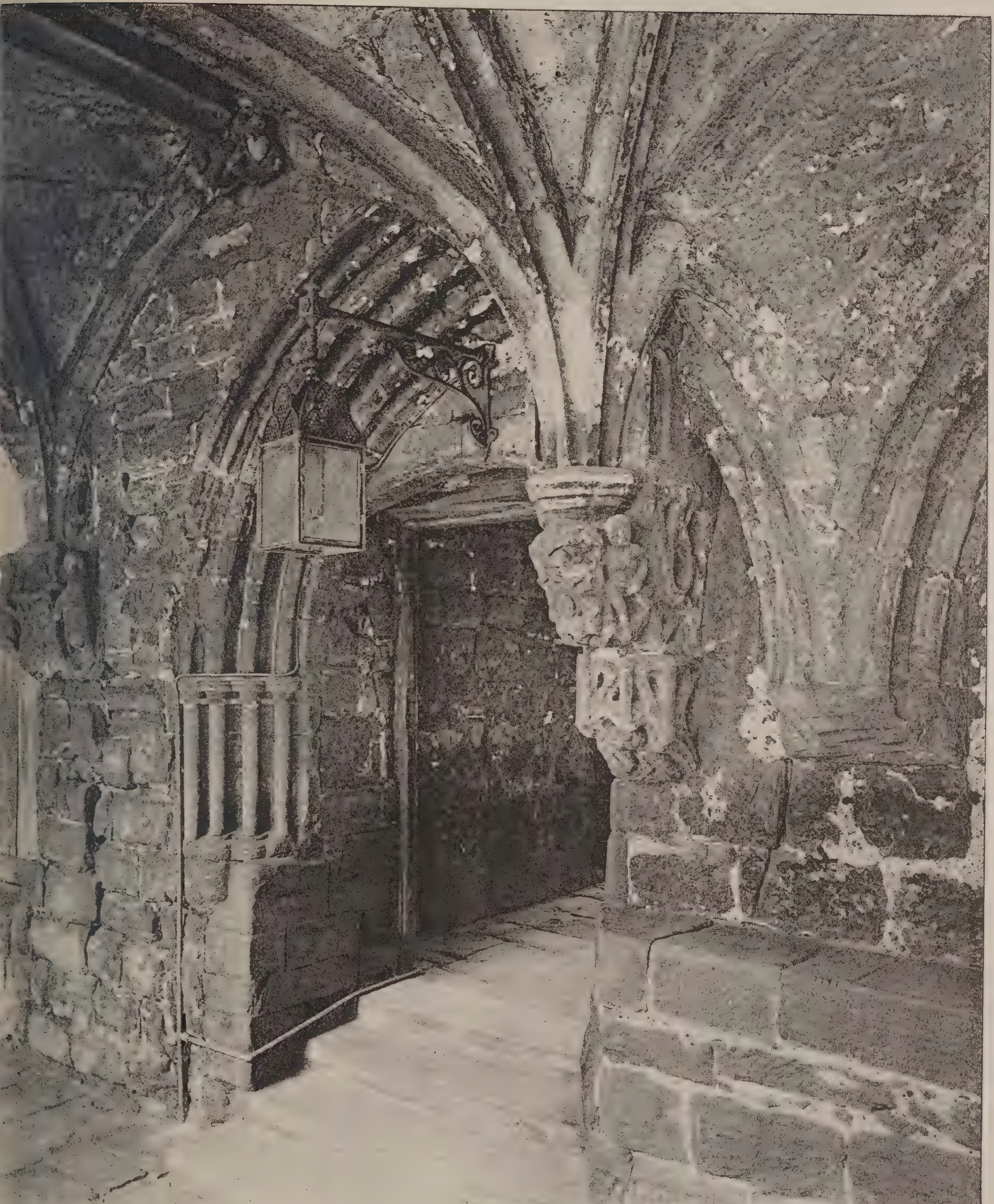
The Architect, Feb: 12th 1904



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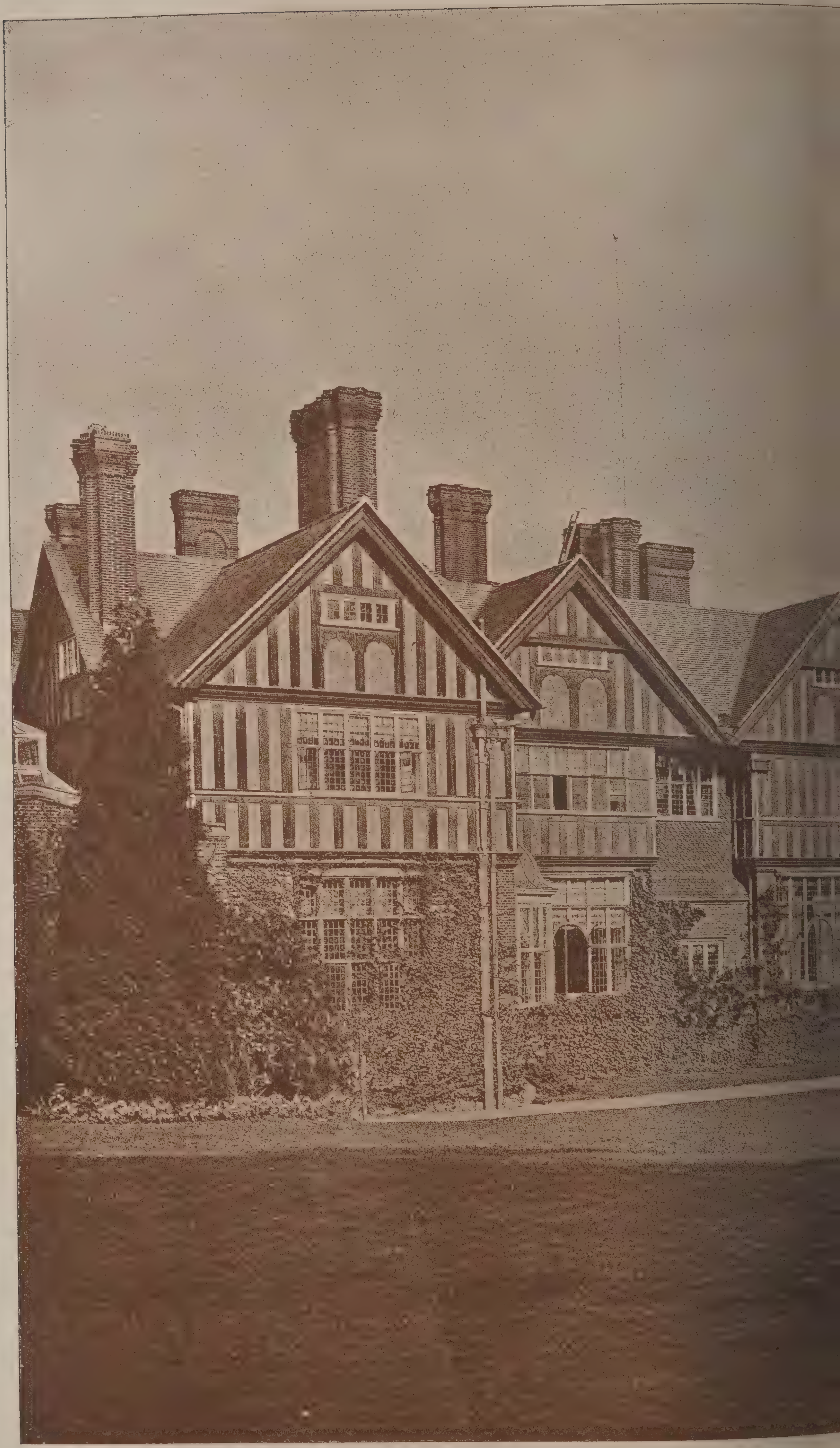
CATHEDRAL SERIES, No. 482.—CHESTER: DOORWAY IN CLOISTERS.



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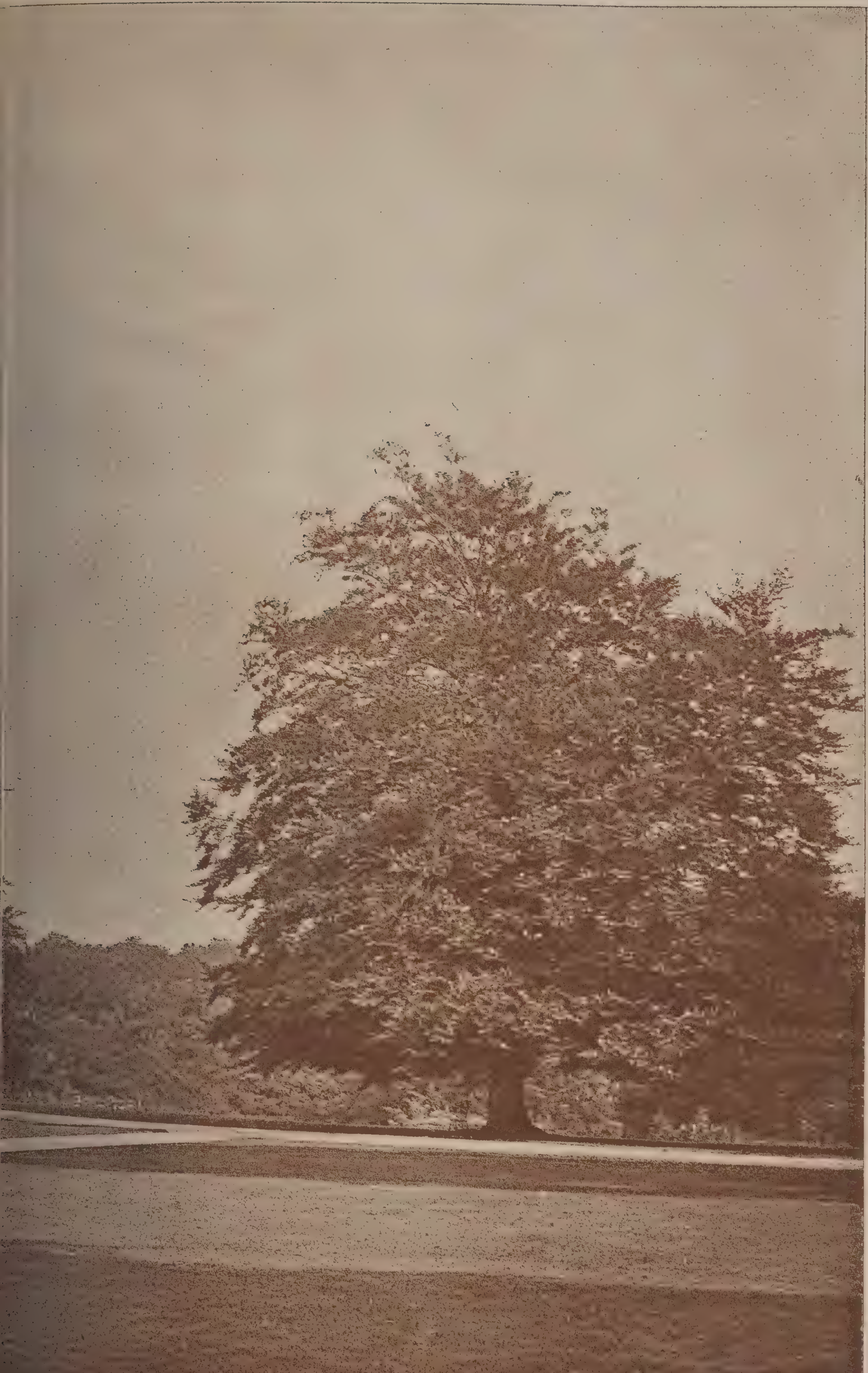
HOUSE AT BANS

NORMA



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: West Front.

itect.

The Architect.

THE WEEK.

Mr. Barrow Emanuel, who died on Sunday evening, was a member of the firm of Messrs. Davis & Emanuel. The illustrations we have published from time to time of their works are enough to show how extensive was their practice as city architects. By birth the late Mr. Emanuel was closely connected with Portsmouth. But although the firm erected several buildings in the country, it was the Metropolis which afforded them the majority of their commissions. The City of London Schools is one of their best known buildings. Mr. Emanuel was born in 1842 and received some of his education in Trinity College, Dublin. From the evidence given at the inquest on Wednesday, it appeared that for some time Mr. Emanuel found difficulty in breathing. The cause was an abscess on a gland which pressed upon the lower part of the windpipe. A surgical operation would not have saved him. Death was traced to the rupture of the abscess of the gland through the windpipe, with consequent septicæmia and exhaustion.

The very large print which we published of the wall-painting by the late Gustave Boulanger in the Mairie of the 13th Arrondissement, Paris, suggested one of the characteristics of the painter. He liked to depict classic scenes, but with figures that were derived from contemporaries. In that work he has introduced a crowd of his friends—painters, sculptors, architects, players and singers. As the husband of Mdlle. Nathalie, of the Théâtre Français, he was welcome in the principal foyers. A picture just bequeathed to the Louvre by the late Princess Mathilde is another example of a class of work in which he was most successful. When the Third Empire was in its glory Prince Jerome had erected a Pompeian villa in the Avenue Montaigne. No more perfect reproduction was ever raised. The residents and the visitors used sometimes to clothe themselves in Roman costumes, and the picture represents a rehearsal of the *Joueur de flûte* in the atrium. The author, Emilé Augier, is instructing Madeleine Brohan and Geffroy in their parts. Théophile Gautier is talking to a lady, and Samson and Got are both about to enter on the scene. The picture is an historical record. The wonderful villa has succumbed to the housebreaker. The whole of the performers have vanished from this world.

The decision of the Court of Appeal in Stockdale *v.* Ascherberg is not likely to allay the prejudice which is ever growing in London against taking houses on agreements for three years. If tenants are afraid to assume the indefinite responsibilities which the law may impose on them, architects and builders must suffer to some extent. Compensation may be found in the increased demand for flats, where, it is believed, the tenant has merely to pay his rent and the owners discharge all other obligations. In the case in question the tenant in March 1902 took a house in Kilburn for three years at a rent of 55*l.* It does not need much experience to realise that the house could not have been one with extraordinary pretensions. The agreement stated that the tenant was "to pay all taxes, rates, assessments, and outgoings of every description for the time being payable in respect of the premises as they become due (landlord's property tax only excepted)." The Urban District Council ordered about six months after the tenant had entered certain drainage works to be executed. The expenditure on them was 83*l.* 10*s.*, and the plaintiff sought to recover that amount from the tenant. Mr. Justice Wright held the defendant was liable, and an appeal was therefore lodged. There are varying decisions on the subject. But the Master of the Rolls and the Lords Justices held that the outlay was to be considered as covered by the word "outgoings." Beyond doubt, in a seven years' lease a tenant would generally be liable for failing to carry out the order of a local authority. But it was generally recognised by landlords that yearly tenants, or tenants under a three years agreement, were not to be called upon to meet extraordinary expenditure. The latest decision proves the contrary, and the case should serve to demonstrate the risks of tenants when they suppose that agreements are drawn out after a standard form that has prevailed for centuries. If the agreement had been examined by a lawyer, the cost of the work, as well as the law costs, would not fall upon the tenant. In these matters, as we have frequently explained, the Courts will generally be found in favour of owners, as in cases of repairs and dilapidations, and knowing these risks, the tenant should endeavour to safeguard himself against the results of employing terms which can be interpreted in a universal sense.

M. Corroyer, the French architect who lately passed away, was a pupil of Viollet-le-Duc, and there existed some similarity between their manner of drawing buildings. He was connected with the Government service and acted as one of the inspectors of diocesan edifices. He wrote a good book about the abbey of Mont St. Michel, of which he had charge. But he is best known in this country by his "Gothic Architecture," of which a translation appeared ten years ago. It deals mainly with French types, but there are references to some of those in other countries. He always insisted on the debt incurred by this country in following French examples. In one place he says:—"English builders assimilated the constructive principles of the architects of Anjou and of the Ile-de-France. In the numerous cathedrals they raised from the thirteenth to the close of the fifteenth century it is easy to trace the original characteristics of French art throughout all the transformations or adaptations by which its methods were modified in accordance with British usages and ideas. This influence is very apparent in the cathedrals of York, Ely, Wells, Salisbury and Canterbury, the last of which was constructed from the plans of an architect or master-mason, known as William of Sens; in that of Lichfield, where the spires of the façade recall those of Coutances in Normandy, and above all, at Lincoln, one of the most beautiful of English cathedrals. Here we have perhaps the most strongly-marked instance of the steady and continuous filiation between the buildings of France and England during the so-called Gothic period. It is quite possible that they were the work of the same architects, as they certainly were carried out by pupils or disciples of the same master-builders." But in all classes of development or of civilisation it is difficult to determine when a debt to preceding work was not incurred. French Gothic is derived from earlier examples, and Englishmen simply acted in the spirit of Frenchmen. The style acquired English characteristics which M. Corroyer insufficiently recognised. Indeed, the author of a book on any style ought to be a cosmopolite and without bias to particular countries or districts. To such a man it would not matter whether the Time-Spirit went from the Ile-de-France to Lincoln or *vice versa*.

Some of the recent novels of Anglo-Indian life, especially in the terrible days of the Mutiny, have endeavoured to suggest to a new generation the wonderful influence exercised on Englishmen and natives by John Nicholson. When it is known that some years before the outbreak a body of fakirs established the cult of Nikal-Seyn, we can realise the ascendency which was granted to him as a matter of course. As a deputy commissioner he was assigned one of the worst districts in the Punjab, and in five years he had it transformed. Yet when he was mortally wounded at Delhi he had only reached his thirty-fifth year. Whilst so many of the Indian heroes have had their statues, John Nicholson was not represented. A sum of 3,266*l.* has at last been collected, and the commission for the work was given to Mr. Thomas Brock, R.A. The site for the statue will be the centre of the garden south of the cemetery in which Nicholson was buried.

ROBERT ADAM IN ITALY.

THE works of Robert Adam are to be found in Scotland and in various parts of England, but it is in London those which are most characteristic of his manner can be studied. Indeed, he has some claims to be considered as an architect qualified to deal with the problems presented by a city. He was rarely employed on public buildings, and although an architect may through many causes be deprived of the opportunities to exercise his talent on the class of work which is best suited to him, yet in the case of Robert Adam it cannot be said that the country lost much because it does not possess many buildings resembling the College of Edinburgh. But in London it is evident he believed that exterior display was uncalled for, and that the most economical and commodious arrangement of a site was to realise that the breaking up of planes by projections or other features was superfluous. The people of his time preferred elegance in the interior of their residences rather than on the outsides, and Adam acted on that fact. He could not fail to observe that a long row of houses, like those which were to be seen in his day and afterwards, was hardly a pleasing spectacle, for they formed merely a repetition of the simplest elements, and he therefore endeavoured to treat a row as a whole but on economical terms. The view we publish this week of one side of Fitzroy Square will suggest that his aspirations prohibited him from becoming extravagant.

It is not for his treatment of mass that Adam will be admired. He was strongest in dealing with detail. He was only two years older than Josiah Wedgwood, and the two men in different ways exemplify the influence of one class of ancient ornament. Both Greeks and Romans employed details which displayed great vigour. But the architect and the potter were attracted by ornament that was light, simple and yet elegant. Adam's predilection was the more remarkable because he was not likely to have seen examples of the same kind in books or drawings possessed by his father, who was a mason and architect, or in any of the buildings of Edinburgh. As a student at the Edinburgh University he may have come across engravings which represented the class of art now associated with his name. But at the age of twenty-six he resolved to visit Italy and study for himself. It is probable his journey was considered in a false light. His father's connection was sufficiently profitable to allow of the four sons following building, and Robert Adam was the cleverest among them. He went to Rome, and there he was able to examine many examples of the ornament which he preferred. In the middle of the eighteenth century the limits of the Classic regions worthy of the attention of an artist were strictly defined. Greece could only be approached with difficulty. Adam may have heard that a countryman of his own, James Stuart, had made an experiment of reaching Athens, although it was then doubtful whether he had succeeded or was living. When therefore he learnt that Diocletian's palace at Spalato still existed to a great extent, he determined to visit it and to produce a work illustrating it. In Rome he met with Charles Clerisseau, a Frenchman, and Antonio Zucchi, both of whom he engaged. It is unnecessary to describe the book which followed, and which was one of the earliest examples of its class produced in England. The palace did not receive unmixed praise. Some treated it as a debased type of Roman architecture, but in later years more attention has been given to it. It was at least a revelation that Roman architects in the first century of our era considered they were at liberty to reject established rules in order to gain variety.

His careful study of the buildings, together with his observations in Italy, made Robert Adam realise that that country was not exhausted for him. Some memoranda which he made are suggestive of the trend which his thoughts were taking. He may have resolved that he would seek in London a field for enterprise as a builder and an architect. He no doubt comprehended then that he would be deprived of stone and would have to substitute brick. At the time travellers were unaccustomed to bestow much attention on that material, and there is novelty in the following entry:—"Sunday we went out to the Chartreuse, about three miles from Padua, to see the place, and at the same time to make trial of the coach. There is part of the building done by Palladio in his usual style. What I most admired was the brick employed: it is formed of a very fine clay of a dark stone colour, and is become almost as hard as marble. It has the finest edge, and consequently the joints of the work are remarkably good. They have even ventured to make the Corinthian capitals of this clay, and though these are but indifferently done, it is evidently the fault of the execution rather than of the materials."

His criticism of Palladio's works when he reached Vicenza also reveals that he did not believe in the accepted judgments of that time. "His private houses," he recorded, "are ill adjusted both in their plans and elevations, as is also the Theatre Olympic, which is looked upon here as a *capo d'opera*. The seats are not convenient for the spectators; the order over them is pitiful. In the angles of the circular part the spectators cannot see the performers and the seats begin much too high above the stage. The scena is the most crowded and ill adjusted thing I ever saw and the alleys in perspective are perfectly childish. The Hôtel de Ville is abominably *maigre* in every respect. What pleased me most of all Palladio's works was his Villa Capra or Rotunda; it is about a mile from town and is agreeably situated on a pleasant coline. The plan is pretty, but the fronts, the round room within, and indeed all the particular parts of it are but very poorly adjusted. However, there is somewhat to make a good thing of, which is more than can be said for most of Palladio's buildings." It is remarkable that he preferred San Michele to Palladio, although, as he observed, that architect was often very impure and very trifling in his decoration.

In the middle of the eighteenth century scagliola does not appear to have been familiar in this country. Adam saw some examples of it in the gallery at Florence, and he notes as follows the applications for which it might be used:—"The scagliola is curious and could be made to answer different purposes; for instance, for columns resembling different marbles, for tables resembling mosaic work, and for most elegant floors for baths and low (lower) apartments, or for linings to any place damp, &c.; and likewise for imitating different marbles in cabinet work and such like things."

In the Palazzo Vecchio he found the apartments full of grotesque (arabesque) ornament superior to any he had previously met with. But in the Duomo his admiration was no less excessive. "The ornaments and enrichments both in wood and marble are very numerous and very finely cut; so that I have nowhere seen a more superb style of ornaments, and propose passing eight days here on my return to have all those drawn both without and withinside."

Like many other visitors he was struck with the apparent smallness of the exterior as well as the interior of St. Peter's at Rome. But his *penchant* was for ornament. At the Caserta, in Naples, he has the courage to criticise the building as a whole. It is a work which was produced when Italian architecture had fallen from its high estate; it failed to meet with Adam's approval, mainly because of the decorative detail. He says of it:—"Afterwards visited the palace, which is great in its whole, and of extreme good and durable construction, but *wonderfully defective in its detail, like the whole of* Vanvitelli's *works*. The dividing the square into small courts has a bad effect, and makes it have the appearance of so many cloisters in a convent. The entry, too, is very diminutive for the principal access to a great palace; but there is something pretty and noble in the carcass of the great staircase, with its lobby both below and above. The king has been wonderfully happy in his materials, particularly marbles, of which he has got a great number of very fine columns. The division of the apartments above seems great, but done with little taste and variety, in the usual modern style, and I think the theatre very ill contrived. As to the decoration of the whole one cannot yet judge of it, no part being yet finished, but from what one can judge from the model and Vanvitelli's other works *it must be execrable*. The basement on the outside is vastly too high for the order."

Soon after his return from Italy Adam received the appointment of architect to George III.; he resigned the office in order that he might enter Parliament. On that account, and it may be also because his great project of the erection of the Adelphi had revealed that he was a contractor and a speculator rather than an architect, his name was not included among the earlier members of the Academy. In justice to Adam it should be recognised that he respected economy. The daring experiment of creating the Adelphi was not a financial success, and subsequently he was careful to eschew anything that might be considered inordinate expenditure. Having admired curved ceilings in Italy he introduced them wherever possible in London houses. He possessed the monopoly of a composition enabling him to produce ornament which would be durable and yet inexpensive. But even in applying that material he avoided florid compositions. A sense of restraint is recognisable in all parts of his buildings, and this is the more surprising because he must have employed several assistants. Adam was probably strong in organisation, and although his buildings are ill-adapted to be taken as perfect models for imitation, they are suggestive of excellent qualities which deserve to be at all times in favour.

QUANTITY SURVEYING.*

It would not be considered a grievous fault if there were oversights in the quantities for a large building. It is more excusable in a volume on quantity surveying in general if there should be omissions. Principles ought to be established and described at length as far as is practicable, and that plan is usually adopted in treatises on the subject. But Mr. Leaning, from the first, acted in the spirit of a surveyor; and, besides stating principles, entered into detail to an extent that was without precedent. He has improved the editions which have since appeared, and now that a fifth has been called for he took advantage of the opportunity to excel its predecessors. The last edition is nearly double the size of the first.

The chief difference arises from the more exhaustive treatment of "prices." The chapter relating to the subject contains sufficient information to constitute a volume. As Mr. Leaning affirms:—"Judicious pricing is the latest acquired faculty of the surveyor and the severest test of his capability; perhaps it is his most difficult task to deduce analogies in the application to a measured account of the prices of a schedule prepared by an ignorant man." Many architects look down on the subject as if it could hardly be regarded as within their province. But beyond any other it possesses interest for the majority of clients. They cannot realise how architects should be indifferent to so essential an element in all building. Styles may be puzzles to a layman, but he is generally able to discourse assuredly about what he considers to be the value of work. Mr. Leaning advises the beginner to obtain records, even in the form of trade catalogues, concerning prices. The question of profit is one which, of course, varies. Ten per cent. profit in addition to establishment charges may sometimes be sought; but in many cases profits have to be taken at a less figure. Much depends on the opinion in which a builder is held by his banker. In Scotland, where it is customary to scrutinise a man's affairs and prospects more closely than is done in England, a contractor who displays the virtues desired in business can obtain money at a somewhat less rate than is possible in an English town. Consequently some contractors in the North have been in a position to undertake work in the South of England. The London County Council's percentages which are adopted for estimated work are for "general charges" $1\frac{3}{4}$ per cent., for "establishment charges" $4\frac{3}{4}$ per cent. On jobbing works they are:—for "use and waste of plant" 3 per cent., for "general charges" 2 per cent., and for "establishment charges" 8 per cent. It is exceedingly difficult to find a common denominator, as it were, for all kinds of labour, although the French authorities and our War Department have imagined they succeeded. But as people who tender are permitted to increase or diminish the price for each item, it is quite certain the standard is very elastic. Mr. Leaning introduces a number of cases in which the cost per cube foot has been worked out. He also comments on the various circumstances affecting the cost of materials in London and other places. In that way his chapter on prices becomes a treatise which might with advantage to architects, surveyors and builders form a separate publication. We know of no book in which the subject is dealt with in so practical a manner. Like many other men who have to ponder over the state of trade, Mr. Leaning is obliged to express disapproval of the system by which labour is governed in this country. In treating of the founder and smith, he says:—

> The importance of iron and steel in the construction of buildings has greatly increased within a comparatively few years, and its manufacture has largely developed. It is probable that in Great Britain the limit has been reached, despite all our natural advantages in the possession of coal and iron. For this the trade unions will be mainly responsible; their short-sighted policy in restricting the quantity of labour to be done in a day by a workman, the discouragement of apprenticeships and other disreputable vagaries has already sapped that predominance which England has so long maintained in the markets of the world, and she must inevitably succumb to the better industrial conditions which obtain in America and Germany.

It is no exaggeration to state that every line of the original parts of the book must have been revised. Instances of this will be found throughout. A new section relating to machinery and pipes has been introduced. Another relates to the pulling-down of buildings. The part dealing with electric power in lighting and bells is now more in proportion with modern use. We also see signs of Mr. Leaning's care in such subjects as the thickening of old walls, underpinning, parquet floors, landings, coppersmith, stoves, stable fittings, railings and gates, fire prevention, concrete buildings, artificial stone, &c. It is unnecessary to speak about the value of the volume as a treatise for the use of young surveyors. Mr. Leaning is exhaustive, and it is unwise for a student to imagine that by means of an abstract or a few lessons in an evening school he is rendered competent to undertake so important a calling. The volume is also authoritative, and on that account will serve as a work of reference to surveyors whenever doubts arise as to practice.

THERMIT.

We suppose there is no room in London which has echoed the expression of so many diverse opinions as the theatre of the Society of Arts. As all roads at one time led to Rome, it may be claimed that all theories relating to the industrial as well as to the fine arts sooner or later are discussed in the room in the Adelphi which James Barry adorned. The last number of the *Journal* of the Society is enough to support our assertions.

Barry, as we know, sacrificed himself and undertook to paint the pictures without any hope of profit. He was satisfied if he received the cost of his paints and canvas. In the *Journal* we have the report of a speech delivered by one of Barry's countrymen, Mr. George Coffey, in reply to the remarks made on his paper relating to Celtic ornament. As our readers are aware, he was not content with studying the decoration as if it were a peculiar product of Ireland. From time to time during recent years he has demonstrated its relationship to somewhat similar types of ornament which he has traced almost to the boundary between Europe and Asia. In his reply Mr. Coffey was combative. The introduction of machinery into art for purposes of reproduction had led, he asserted, to death. The having beautiful things before them did not educate people in art, and therefore he was opposed to the dissemination of copies of statuettes and the like. He also observed that "it had been said in the discussion that the designer had to live. He denied that. Why had he to live? A bad designer certainly had no business to live; he must justify his existence. Of course in the present age designing was a commercial matter. It was not art, and the schools of design were started with the deliberate intention not to produce art, but to produce an art commodity, and that had been the fundamental error. A start was deliberately made with the idea of making money out of it, and the money was the aim, not the art. It was a case not of losing one's life to save one's soul, but the other way." According to Mr. COFFEY, we are not sufficiently refined in these times because applied ornament is not always produced by the hand of an artist without any aid from a machine.

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* *Quantity Surveying.* For the use of Surveyors, Architects, Engineers and Builders. By J. Leaning. Fifth Edition, Revised and Enlarged. London: E. & F. N. Spon, Ltd.

Mr. H. H. S. CUNYNGHAME, C.B., who was the chairman of a meeting held last week, considered that we were all in error because English education has been run on clerical lines. Instead of encouraging boys to handle machines, they were taught the only thing worth learning was how to spell correctly, or some rubbish of that sort. The latter remarks were made *à propos* of a paper by Mr. C. V. BOYS on "Thermit: its Application to Metallurgical Engineering." Undoubtedly the history of thermit would suggest that many English manufacturers and capitalists are incompetent to appreciate a good thing when they see it. The material was invented by CLAUDE VAUTIN, of the City of London, in 1894. But no value was attached to it until it was taken up in Germany.

What is thermit? The old definition of solder is to some extent applicable to it—viz. "a metal or metallic composition used in uniting other metallic substances by being fused between them." Thermit, however, fuses the parts to be joined, and thus incorporates itself with them. VAUTIN discovered that aluminium, when mixed with metallic oxides, sulphides, chlorides, &c, reduced through the intense heat other metals, including those which were generally supposed to be intractable and infusible. The word "thermit" was applied to the mixture of aluminium and an oxide of iron in fine grain and in chemical proportion. When ignited in the crucible it consists of two layers, iron below, in an amount nearly half the weight of the original thermit, alumina above, both at a temperature approaching 3,000 deg. Centigrade, so that it cannot be looked at without risk to the eyes. The application of the compound has only been partially practised. The main use of it has been in welding under different circumstances. Take a simple instance. Suppose it is desired to have a butt-weld between two iron or steel bars, pipes, angles or channel-irons. According to Dr. HANS GOLDSCHMIDT there are two methods available of applying the compound. "It may either be poured out of the top, like castor-oil over ginger wine, in which case the lighter material goes first and is followed by the heavier; or it may be run out through a small orifice at the bottom of the crucible, in which case the heavy iron will go first and be followed by the lighter alumina."

The bars are merely a comparatively elementary trial. A more surprising illustration was mentioned by Mr. BOYS as occurring in a factory in Holland. The connecting-rod of a large steam-engine broke near one end. A mould was made and the repair was accomplished by thermit within twenty-four hours. The driving-wheel of a locomotive which was fractured in three places was also repaired. Several cases are also recorded in which the crank-shafts and stern-frames of steamers have been rectified, although on one occasion the crack extended through more than half the thickness of the shaft.

In England there exists some remarkable evidence of the strength attained by the new welding. The most important is seen on the tramways of Leeds. The jointing of rails is the weakest point either on a tramway or a railway, and countless inventions have been made to overcome the difficulty. Screws and bolts in fish-plates cannot withstand the vibration. Right and left screws have been tried in the hope that if one half became loose the other half would be tightened by the strain. But the result was disappointing. Over three thousand joints on the Leeds lines are now rendered secure by means of thermit. Various experiments were tried to ascertain their efficiency. In one case pressure up to 60 tons was applied by a ram on a 5-feet rail. There was no permanent set. At 70 tons the rail broke, but not through the weld. In another experiment the rail fractured at 70 tons, the welded portion remaining intact. The conclusions drawn at Leeds are:—(1) That the joint is far stiffer than the usual one made with fish and sole plates; (2) that the electrical conductivity is better than that of the unjointed rail, and the conclusion is that there is no more any occasion to subject the rolling-stock and the nerves of the passengers to the continual hammering of imperfectly connected rail ends. In fifteen other towns thermit has been used for the joints of rails. The compound is too much of a novelty to define the extent of its usefulness. In the majority of metallic structures the joints are the weakest parts. By the new invention they can become as strong as the rest of the material. Time may not have more effect on thermit than on iron or steel or aluminium. It would not be over sanguine to expect that a great many machines and parts of machines previously set aside can be made serviceable by the invention which has been allowed to slip through the hands of Englishmen into those of the Germans.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last, Mr. Aston Webb, R.A., president, in the chair.

Professor FRANK CLOWES read a paper on

The Biological Disposal of Sewage from Isolated Buildings.

The paper dealt mainly with the application of the biological method of treatment to the sewage from the new colony established at Horsham in the buildings of Christ's Hospital, erected by Aston Webb, R.A., and Ingress Bell. The system adopted consists in passing the sewage slowly through a depositing, or so-called "septic," tank, and allowing the outflow from this tank to be dealt with intermittently in coke-beds. The effluent from the tank, after having been treated once in the coke-bed, passes into a running brook, flowing as a matter of convenience over a short stretch of grass land on its way.

Describing the system of biological treatment and the method of adapting it, the author explained that the general advantages secured by the system are that it affords an inoffensive and non-putrescible effluent, and at the same time largely reduces the amount of sediment or "sludge" from town sewage which has to be disposed of; in the case of domestic sewage it even removes the sludge altogether.

There are two recognised methods which expose the sewage liquid for the action of aërobic bacteria. The "continuous method" provides for the liquid which overflows from the septic tank being continuously sprayed over the coke-beds, through which it constantly trickles and then flows away; whilst the "intermittent method" provides for the coke-bed being filled with the liquid and then drained away after it has remained in the bed for a few hours. Both methods, properly arranged and worked, yield a perfectly satisfactory effluent, and one or other should be chosen according to the conditions under which the sewage is to be purified; where the fall of ground is sufficient the continuous treatment might probably have the preference.

The plant for continuous treatment would be more expensive than that for intermittent, but the cost of working would be less. The extra cost of working the valves in the intermittent system may be reduced where there is a man about the place engaged in other work who can attend to the valves; or the action may be made automatic.

Summarising the general results obtained, the author stated that the treatment has now been in operation at Horsham for over eighteen months, and that not a hitch has occurred in the working of the plant. The solid fæcal matter of the sewage is absolutely disposed of in the septic tank, and no deposit has formed upon the bottom of the tank. The fear expressed that this tank might become offensive has been proved groundless, since the ventilators in the roof of the tank and the open manholes emit no offensive smell, and the smell of the effluent itself is slight and only noticeable in the immediate vicinity of the tank. The final effluent liquid from the coke-bed is usually slightly turbid, but is free from any offensive odour; it possesses only the smell of freshly turned garden mould, and this is the odour usually emitted from wholesome effluents.

An effluent of the character of that at Horsham actually improves the condition of the water of a brook which has been fouled by sewage and cesspool discharges. The experience obtained in the construction and working of the plant in question has given assurance that it is suitable to deal with the sewage derived from any isolated building without giving offence. Under proper management, the sewage effluent which it discharges is innocuous to fish and can never become offensive when it is discharged into a watercourse.

The author gave details of the construction of the plant and the method of using it. The sewage flows by gravitation into a small receiving chamber and passes through a coarse screen into the septic tank. The tank is constructed in duplicate in case of accident or necessity of repair, each part being capable of retaining a twenty-four hours flow of sewage. The tanks are covered in and provided with tall vertical ventilating shafts similar to those employed for the ventilation of sewers. The tanks were formed by excavating the soil, and were then built in brick and rendered inside with cement. Both the inlets and the outlets of the tanks consist of elbow pipes, the ends of which are beneath the surface of the liquid within. The solid fæcal matter rises to the surface of the liquid, and the arrangement of the elbow pipes not only insures that this matter shall remain in the tank during its dissipation as gas and liquid, but also that it shall not be disturbed meanwhile by the flow of the liquid.

The effluent passes from the septic tank by an exit and flows along an open channel on its way to the coke-beds. This channel was constructed in a succession of steps, so that the liquid by falling over weir-walls might be freed from much of its dissolved gas and might become aërated. Aëration has since been more fully secured by letting the effluent fall through perforated trays before passing over the weirs.

From the culvert the liquid flows into a tank filled with small graded hard coke. The liquid is distributed over the coke surface by flowing along branched "grips," which are excavated in the surface of the coke. The grips are lined with fine coke, which serves to filter off the coarser particles and to prevent them from getting into the bed. This fine coke is raked off at intervals and replaced by similar fresh material. As soon as the coke-bed is full to the upper surface of the coke, the flowing liquid is diverted into another similar bed. The bed is then allowed to stand full for two hours, after which the liquid contents are allowed to flow away through drainage arrangements provided on the floor of the tank. This liquid constitutes the purified sewage effluent.

The tanks for containing the coke are constructed in a similar way to the septic tank, but are not covered in. They have square drainage channels provided in their floors, which are covered with perforated iron plates. Six of these coke-beds are provided, and they are used in succession. Three of them are filled and emptied each day, the liquid remaining in the bed for two hours, and the bed being allowed to stand with air in the interspaces of the coke after its liquid contents have been discharged. Two of the remaining beds receive the effluent flowing continuously through them from 5.30 P.M. to 6.30 A.M., a period during which the sewage is scarcely foul and comparatively little purification is necessary. This flow is provided in order to maintain the proper bacterial condition of the coke while the bed is not doing duty.

It is found that the amount of purification produced by a new plant increases for a considerable period, and that, so far from the tanks requiring renewal or cleansing, they become increasingly efficient as their age increases if they are worked with regularity and are left undisturbed.

This "natural" or "biological" process is identical with that which occurs in the treatment of sewage on the land in sewage farms, but the biological plant causes no offence, and requires less space and is more satisfactorily under control than the sewage farm. It compares favourably with the chemical processes of treatment, which can never effect economically a purification equal in degree to that secured by biological action, and which produce a much larger amount of sediment or "sludge."

Dr. FOWLER, of Manchester, said it had struck him that for architects the sewage problem did not exist, because in its importance in the future it would more and more be a question of cost. A system of disposal could be installed by which the effluent treated would ultimately reach a degree of purity analogous to water. There was no doubt that instalments for country houses and comparatively small buildings might be made very efficient without any serious question of cost, because the simplest methods were generally the best. With a perfect distribution there would be a good result, and it should be remembered that any increase in cost meant nearly double a margin of safety.

Dr. ARMSTRONG said the system of sewage disposal was of extraordinary scientific interest. It seemed to him that the cesspool had been got rid of as an abomination, but by scientific process on a larger scale sewage was being treated by a somewhat similar arrangement, the advantage being that there was no risk under modern installations of contamination with the water supply. The importance of the subject indicated the necessity of architects receiving good scientific training.

Mr. F. J. WILLIS proposed a vote of thanks to the author of the paper.

Mr F. J. OSBORNE SMITH seconded the motion. Messrs. H Griffiths, Langton Cole, E. Penfold, Max Clarke and F. Lishman also spoke.

The PRESIDENT announced that at the next meeting on February 29 the election of the Royal gold medallist would take place, and the following resolutions will also be moved on behalf of the Council:—"That after December 31, 1906, every candidate for the Fellowship shall be required to have passed the examination or examinations qualifying him as an Associate, but that in exceptional circumstances the Council shall have power to dispense with such examination or examinations. Further, that during the intervening periods the doors to the Fellowship shall be opened wider than at present, so that no reputable practising architect desiring to join the Institute should be debarred from doing so."

The Council will also propose certain amendments to the suggestions for the conduct of architectural competitions.

ENGLISH DOMESTIC AND MILITARY ARCHITECTURE.

A SERIES of lectures on "English Houses and Castles," by Mr. W. H. St. John Hope, under the auspices of the Salisbury University Extension Lectures Association, is being delivered at Salisbury.

In his introductory remarks, Mr. Hope touched upon pre-Roman buildings, such as pit dwellings and hut circles, also lake dwellings, some of which have been discovered near Glastonbury. Traces of British villages during the Roman occupation are found in Wiltshire. Passing on to Romano-British buildings the lecturer spoke of the great wall built by Hadrian and the fortresses of the Saxon shore. Pevensey Castle, in Sussex, is an example of these Romano-British fortresses, and characteristic Roman masonry has been found there. As to the towns, some of them, such as York, Lincoln, Winchester, and part of London, had their origin from fortresses; while others, like Bath, were of civil origin. Round these towns were built walls pierced by gates and guarded by towers, Lincoln possessing the only Roman gateway now in use. The Roman masonry is distinguished from that of a later period by the smallness and regularity of the stones. Only at Silchester can we learn anything of the arrangement of Romano-British towns, though part of a forum can be traced in Lincoln. Silchester is irregular in shape, due partly to the formation of the ground, and is surrounded by a wall with gates. In the centre is the forum, or market place, with shops round it, and the basilica near, while further off are one or two temples and a church, the only one of the Roman period found in Britain. The houses are seemingly dotted about with irregularity. As to the houses of the period, some of them were of the Northern type and others of the Pompeian order, the latter having an atrium and peristyle, or garden, surrounded by a verandah. The usual plan, however, seems to have been a row of rooms opening upon a corridor, with perhaps more rooms built at right angles. These villas, of course, differed in size, and the larger ones had baths attached, very like our Turkish baths, also stables and granaries, and in some cases dye-works or fulleries were added, the decorations of the house varying in richness according to the wealth of the owner. In the villa discovered at Bignor beautiful pavements were found in the rooms; also at Woodchester, in Gloucestershire, which is very large. The winter rooms were heated by means of hypocausts. As to the peasant dwellings not much can be said. The servants, all of whom were slaves, lodged round their master's villa. The town houses usually had no baths owing to their proximity to those in the city. There is evidence of the prevalence of wooden buildings during the Romano-British period, but a complete break of continuity occurs between the architecture of that and later periods. The lecturer then proceeded to speak of the English settlement, of the social condition of the first settlers, and the origin of the villages. Then came the Danish invasion, with the Saxon and Danish buildings built of wood. An example of an Icelandic house was shown on the screen, in which the large hall occupied by the owner has a sloping roof supported by carved pillars. Down the centre fires were placed, and in the aisles were tables and couches used for beds at night. The women had a portion curtained off for them, and later a bower was added for their use where they also slept at night. There is no evidence of any kitchen with these houses, so cooking was either done in the open or in the hall itself. For extra warmth a pile of stones was built against the outer walls and the roof covered with sods. The burhs, or burghs, of Edward the Elder and Ethelfleda, in the Midland and South, were populous hamlets usually built on rivers to defend them and keep the Danes in check. From the Domesday Book we learn something of the condition of the country under Edward the Confessor. Then the cottars lived in cottages, the bordars dwelt sometimes in towns and the villeins were found chiefly in villages. The thanes, or Saxon nobility, lived in large manor-houses with moated enclosures for protection, while the clergy seem to have dwelt in or near monasteries, some even finding shelter in the tower of their church.

The second lecture by Mr. W. H. St. John Hope dealt with the eleventh and twelfth centuries. The houses of the Norman period were divided into two kinds, those inhabited by the peasants, of which we know nothing, and those in which dwelt the thane or chief. The usual type of the latter was a large hall, with detached offices usually built of masonry and wood. Documentary evidence gives the dimensions of these halls, but there is an apparent lack of early examples. To the later examples of these manor-houses belong Appleton Manor, in Berks, and Warnford, in Hampshire, which, however, is in a very ruinous state. The two-storeyed dwellings inhabited by the Normans consisted of a basement used for stores, with a large hall above, entered from an external staircase, of which a very fine specimen and the only one preserved is to be seen at Canterbury. At Christchurch, in Hampshire, is another example of a two-storeyed house, and there are two at Lincoln, one known as the Jews' House, which has a very rich doorway. At Southampton the building known as King John's House is of twelfth-century date. Examples of this manner of building are shown in the Bayeux tapestry. Great halls were attached to monastic buildings and used as an infirmary for sick monks, or by those who were allowed by reason of age relaxation from the strict rules of the order. There is a fine hall at Oakham, and the grand building raised by William Rufus on the site of Edward the Confessor's palace was first used in 1199 Then came the introduction of castles, which were first mentioned in 1048, and were probably introduced from Normandy by Norman favourites of King Edward, and were not identical, as some have thought, with the burhs of Edward the Elder. They consisted of a large mound the throwing up of which formed a ditch often left dry. On the top of this, which was made flat, a tower of wood and a ring of buildings were built more or less domestic in character, and consisting of a hall, kitchen and offices and oftentimes a well. The defences were on the ramparts In 1067 King William built the strongholds of the Tower and Barnard's Castle on the Thames, and one also at Winchester. In 1068 others were built at York, Lincoln, Cambridge and Warwick. These castles were for protection, as most of the towns were hostile to William, and were oftentimes placed near a river. Examples of these castles are worked in the Bayeux tapestry. Later on stone towers or keeps were introduced such as at Rochester, Colchester and Richmond in Yorkshire, and they were not always built on a mound. As to the towns themselves, a survey made by Henry I. finds Winchester scantily built over, only about seventy houses in all In 1189 London houses were built of wood, covered with stubble; this proved very dangerous, for fires were many and extensive. Afterwards each house was divided by a wall 3 feet thick and 16 feet high, which proves the existence at that time of two-storeyed houses In some of the buildings herring-bone work is to be seen, indicating an early date of construction, while others show bands of Roman masonry. A noticeable feature of buildings of the twelfth century was that the windows were pointed and the door round. The lecture was made very interesting by reason of the excellent slides shown.

EARLY WATER-COLOUR PAINTING.

At the beginning of the eighteenth century the art of drawing was included amongst the fashionable accomplishments in the education of the daughters of the higher order of society So little, however, had the fine arts been cultivated by natives, that foreign artists were almost universally appointed as teachers, as well at the most eminent female seminaries as at private houses; hence the fashionable names of so many appended to the drawings of this period, now only to be seen amongst the curiosities of some of the noble mansions in various parts of England and Scotland, or in the portfolio of the virtuoso—Pillement, Chatelain and others. These usually drew landscape in blacklead pencil or chalk, shadowed them with Indian ink, and tinted them with thin washes of colour. Advancing to the commencement of the reign of George III., every department of drawing improved, though but slowly in colour or effect, yet very materially in composition.

"Topographical drawing," indeed, may be said to have commenced with the ingenious Paul Sandby, who departing from the disreputable practice of his predecessors, who had been content to give to the world mere *pasticcio* compositions, compounded of plagiarisms from the prints engraved from the old and contemporary foreign masters, went to nature for his prototype, and being thoroughly acquainted with the principles of linear perspective travelled into most parts of England and Wales, and on their respective sites drew views of cities, towns, castles, cathedrals, churches and other topographical subjects with characteristic truth and occasionally with pictorial taste.

Sandby's process, by which he sometimes produced pleasing, cheerful daylight effects on his topographical subjects, was to pen carefully the outline of buildings, trees, figures and every part of his composition with a line, without any diminution of tint, similar to that produced by etching On this he distributed the shadows with Indian-ink and a mixture of bistre on the foreground objects, and tinted the whole in their respective colours, which when finished had the appearance of aquatinta prints slightly coloured. Late in life—and he lived to the age of eighty-four—he improved his style of colouring, and on a few rural subjects, particularly two representing alehouses, views on the Bayswater Road, with waggon-horses at the water-trough, he introduced a very pleasing harmony of tints; but these were executed after Turner and Girtin had displayed, in some of their finest landscape compositions, the superior capabilities of water-colour painting.

Michael Angelo Rooker, a contemporary artist, advanced the art of colouring in this material beyond Sandby. Indeed some of his coloured studies from nature were wrought with truth and feeling, though he never could accomplish a complete work of art wherein the same qualities which he attained in his separate studies combined should produce that general union of light, shadow, colour and general effect which constitute a picture. He however effected enough to show that water-colours thus carefully applied in the representation of the localities of tint in brick, stone, timber, tile and plaster were capable of being wrought into works much more worthy of competing with pictures than his predecessors had conceived, or had even considered to be possible.

The next in succession amongst those who advanced the art was Thomas Hearne, who, though not to be classed with the colourists, is the first on the list who combined in his compositions that truth of drawing, tasteful arrangement, with skilful and appropriate execution, which constitutes the chiaroscuro of a picture. These qualities, wrought in a sober greyish tone, were harmonised by a general warm tint with slight indications of local hues distributed to certain parts, and with such judicious skill as almost, in his most successful works, to supply the deficiencies of a more vigorous colouring. His drawings were universally admired and are still worthy the contemplation of the amateur who would emulate a pleasing, elegant style of topographical drawing.

The immediate predecessor of Turner and Girtin, and, it may be added, the precursor of that style of aerial perspective or atmospheric effect which was subsequently displayed in their works with all the charm of incidental light and shadow, was John Cozens. This distinguished draughtsman studied much in Italy, and there acquired, from the contemplation of the extensive scenery of that romantic and picturesque region, those qualities so peculiarly adapted for imitation in water-colour painting, which supplied the last desideratum, and with the others laid the foundation of the art as since so successfully practised by the many painters who constitute the existing school of water-colour painting.

It is due to the ingenious draughtsmen who were the pioneers of the art to observe that they had to contend with many difficulties in their practice, some of which were insurmountable. First, the art of preparing water-colours was not sufficiently known to afford that depth of tone, brilliancy and general efficiency which the application of paints as now prepared is capable of producing; and, secondly, the best paper then in use would not bear washing or sponging, so that even with colours properly prepared and in the hands of modern artists, such paper would not admit of those rich and glowing effects which characterise their works; for without sufficient body and eligible texture such as the improvements in this material now afford, no art or skill, however combined with patience and perseverance, could effect anything worthy the character of painting.

The first of these desiderata was supplied by the ingenuity of Reeves, who obtained a patent for water-colours prepared on a new and improved principle; the second was accomplished by Whatman, who also obtained a patent for the manufacture of wove drawing-paper, which advantages being procured, the perceptions of the artists had efficient material to operate upon; and, soon availing themselves thereof, struck out the rudiments of that superior style of art which, improving progressively, attained such power and excellence as, considered with all its attributes, may now almost compete with works produced by pigments prepared in oil.

NOTES FROM NAPLES.

The report of Mr. Consul-General Neville-Rolfe on the trade of South Italy for the year 1903 states that the present railway line from Rome to Naples is extremely circuitous, and though by increasing the speed of trains the time occupied in the journey has been reduced to about five hours, this is altogether an absurd time to take over a journey of about 130 miles in a direct line. A new line, which will be run by electricity, is now decided upon and has been surveyed by a British company. This will run from Rome across the Pontine Marshes to Terracina, and thence to Formio, a small town which is practically a suburb of the important garrison town of Gaeta, and thence to Naples, following more or less the line of the coast. The force used will be derived entirely from water-power, and mainly from the Tiber and the Volturno, the latter river almost bisecting the line, and being capable of supplying the greater part of it. The line will probably enter Naples at the west end of the city, and as it will be mainly dependent on its passenger traffic, will prove of great convenience to travellers, who will be set down in the residential part of the city, instead of, as is now the case, at the extreme east end of the town.

Another important electric railway has been opened in the course of the past year by the enterprise of Messrs. Thos. Cook & Sons, the well-known tourist agents. The line will in the near future run from the city of Naples to the base of the funicular railway which has carried passengers up the cone for many years. The present railhead is at Pugliano, a village close to the entrance of the excavations of Herculaneum, and consequently within a few feet of the sea-level. Pugliano is reached by carriage from Naples in a little more than an hour, and from thence an ordinary overhead electric car takes the traveller through a fine forest of evergreen oaks, and afterwards through vineyards and gardens to the large building where the electric force is generated. This section of the line is 3,500 metres in length, and is an adhesion line with a gradient of 5 to 8 per cent The second part of the line from the generating station to the Hermitage is 1,650 metres in length and is a cog-wheel line with a gradient of 20 to 25 per cent., and here an engine is attached which pushes the car up till it reaches the Hermitage, where the third part of the line of the length of 2,700 metres begins. This is again an adhesion line as in the first part of the railway.

For the production of the gas which drives the motors two ordinary Dawson gas generators, of 200 horse-power each, are employed. These supply gas for two gas motors, provision having been made for the addition of a third should it be required. Each engine drives a continuous current dynamo, and the two generators work parallel to an accumulator battery which regulates the current. The battery consists of 300 elements, type N. 16 R., in glass vessels, and is guaranteed for a capacity of 256 ampere hours with 256 ampere discharge current. The system is the Stur system, the same as is used on the Jungfrau Railway

The third section of the line runs from the Hermitage to the foot of the cone, passing close beneath the Observatory, and after crossing the lava beds terminates at the base of the wire rope railway. This funicular railway has been completely rebuilt, and nothing but the iron rails of the old railway have been used The old railway was on wooden sleepers, but these have all been removed and the substructure is now made in solid masonry, the sleepers are of iron, and the rope of the very best steel wire obtainable. The cars are provided with powerful automatic and ordinary brakes of the most modern description.

The opening of an Italian Exhibition in London in May next, under the auspices of the Italian Chamber of Commerce situated there, has produced a stimulating effect on trade in Italy. The Chambers of Commerce in the principal Italian towns have all been officially notified, and such of them as were not pledged to support the St. Louis Exhibition, which is to be held in the United States at the same time, and thus unfortunately clashes with the Earl's Court undertaking, are co-operating cordially in the movement, and even the others are in hopes of being able to find enough candidates to compete at both exhibitions. There are many to whom London presents much greater attractions than St Louis. It is in the first place much nearer, and in every respect much less costly. The Custom-house formalities in America are dreaded, and of course the return of unsold goods is much more difficult. There is a large class of exhibitors who make articles solely for exhibition purposes to attract the public. These things are often, though good advertisements of the skill of the maker, not by any means readily saleable, and are sent from one exhibition to another, favourably criticised by experts and juries, of great service in winning medals and diplomas, but too costly and often too large to meet the taste of the purchasing public In point of sales effected, the London Italian Exhibition of 1888 compared very favourably with most of the recent shows which have been attended by Italian exhibitors, and we may expect to see important and leading firms taking part in the London 1904 Exhibition

As to other reproductions, we have the gold work copied from the ornaments found in the Greek tombs of the fifth century B.C. This industry was originally founded by the late Signor Castellani at Naples, and now flourishes both in Rome and at Naples. The ancients worked in pure gold, and these modern ornaments are also reproduced in the pure metal, which gives them a wonderful richness and solidity. Venetian glass has been famous from time immemorial; sculpture, alike in marble and alabaster, has had its home in Tuscany; the reproduction of ancient Greek and Roman bronzes by the "cire perdue" process may be claimed as a specialty of Naples, as may, of course, the working of coral and tortoiseshell and the cutting of shell cameos. Florence and Rome, each in a very different style, produce mosaics of great beauty and value; wood-carving and the making of ornamental furniture has its home in Central Italy and Venice; exquisitely painted floor tiles are turned out at Naples, and Florence has its specialty in the reproduction of majolica and lustre ware.

Of new companies mentioned in the report, that which is concerned with the construction of an electric tramway from Castellamare to Sorrento will probably be of the greatest interest to British readers. Their object is to run a line for passengers along one of the most beautiful roads in Europe. The distance is only about 11 miles, but owing to the hilly nature of the road it cannot be covered by horses in much less than an hour and a half. The electricity for this line will have to be generated by coal as there is no water-power on the Sorrentine peninsula. The enterprise is likely to pay fairly well, especially in the winter season, as it will connect a very populous country side with the railway at Castellamare, and place them in easy touch with Naples at a time of year when the bay is treacherous and navigation by steamers very uncertain. In summer the sea passage will always be preferred, as it is pleasanter and cheaper.

To accede to a request which has often been made by the travelling public, Pompeii is now to be opened on moonlight nights. In order to secure this privilege notice must be given before noon on the day of the visit There is now an excellent hotel at the entrance to the excavations, so that there is no need to return to Naples the same night. The hotel is heated and has electric light. The price of entrance to the ruins at night will be 4 lire per head, as against 2 lire, which is the charge in the daytime, and it may be added that there is no risk of contracting malaria in a night visit.

DILAPIDATIONS.

A PAPER was read on Tuesday before the Institute of Estate and House Agents dealing with the "Law of Dilapidations." Mr T. Cato Worsfold said the landlord was under no liability to do repairs to a house where, through wind and rain, premises had become in a dangerous condition; and was under no liability to rebuild premises destroyed by fire, even though he had received the money from the insurance office for the purpose. There was no implied covenant with an unfurnished house that it was fit for habitation. Judges had held that before a house was taken up the lessee should see for himself if the premises were fit to live in. The Housing of the Working Classes Acts, 1885, made special exception to this rule, however. If the landlord agree to repair before the tenant took possession he must execute all repairs before he could compel the tenant to do anything. If the landlord covenanted in the case of fire to rebuild and replace the premises, he was under no liability to reinstate any additional buildings erected by the tenant. If the landlord undertook a covenant to repair with a stipulation, casualties by fire or tempest excepted, he was under no obligation if the damage was caused by either. Coming to the liabilities of the tenants, Mr. Worsfold said the tenant must pay his rent though the premises were destroyed by fire. The tenant's only remedy, if the landlord covenanted to do repairs and made default, was by action for damages for breach of contract. If the roof was blown off by a gale the tenant must reinstate it himself. So, too, if a hurricane blew down a house or lightning destroyed it, the tenant was still liable if he had entered into a general covenant to repair. It was important to remember that if a tenant contracted to purchase the freehold of his premises, he was responsible for all dilapidations from the date of contract to purchase. Most important was it for the tenant to have a place surveyed and a schedule of the conditions agreed to by the landlord before taking up a lease. If a tenant had covenanted to repair and keep in repair, and omitted the words damage "by fire excepted," he must rebuild if the premises were burned down. The tenant, in the wear and tear clause, was only bound, providing he did covenant, to clean old paint and not repaint it. Many more nice points of the law were treated of by the speaker.

Mr. C. H. Reilly was appointed on Tuesday to the Roscoe Chair of Architecture in Liverpool University, vacant through Professor Simpson's resignation. Mr. Reilly was a scholar of Queen's College, Cambridge, and in 1896 was placed in the first class of the Mechanical Sciences Tripos After leaving Cambridge he received practical training under his father and in the office of Mr. John Belcher, A.R.A. Since then he has been in practice for three years. In the competition for Liverpool Cathedral the assessors accorded his design honourable mention. Mr. Reilly has lectured for the past three years at King's College, London.

NOTES AND COMMENTS.

A great many people, when they inspect the Forum Romanum for the first time, are greatly puzzled, although they may lack the courage to acknowledge that fact. There is such a mass of ruins, they fail to understand what room was left for Roman citizens who were proud of the place. It is also allowable to conclude that in the time of the republic and the empire there were more structures, of which we can only see the fragments. A public meeting was therefore likely to have been more crowded than was the stage at Drury Lane when the Saxe-Meiningen company appeared upon it. The guides do not always make matters clearer. The "Handbook to the Recent Excavations in the Roman Forum, 1898-1904," by Burton-Brown, with a preface by Comm. Boni, director of the excavations (London: John Murray), can be easily carried in the pocket and a chapter perused whenever time admits. It is illustrated by photographs and plans. Much that is related as Roman history in books will not stand the test of common sense. We cannot believe they were giants in those days and that heroic deeds were performed continuously. But what has been unearthed affords revelations which cannot be gainsaid. The Via Sacra fails to impress until we remember that it was the earliest highway and laid out long before Romans had acquired their skill in road-making. There is so much information in Mr. Burton-Brown's book, it would be easy to expand it into a large volume, but size has much to do with the utility of a handbook, and if the visitor requires more information other works are available.

A foreign gallery is rarely enriched with a work by Giovanni Bellini. Apart from their intrinsic interest as examples of the artist's style, his pictures are of importance in the history of painting, and especially of the Venetian school. To him several masters were indebted. The Italian authorities, therefore, are on the alert in order that no easel picture by the master shall be smuggled out of Italy. There is a severe law to punish any attempts of that kind. But just as it is commonly believed it is possible to drive a coach-and-six through the sections of any English Act of Parliament, the Italian restrictions are likewise mysteriously evaded. The Berlin Gallery, for example, was recently increased by a *Resurrection of Christ* which is thought to have been produced by Giovanni Bellini in the year 1475, *i.e.* at a time when the artist was about fifty years of age and in his prime. It was painted for the church of St. Michael, Murano. It is believed that a Count Roncalli was able to obtain it, and when he removed to Bergamo brought the picture with him. A great many offers were made to him, and his terms were stated to be 100,000 lire and a good copy of the painting. The Italian authorities heard that the picture was in the market and were more active in precautions. The picture, however, suddenly appeared in the Berlin Gallery. Proceedings are in progress against the former owner. He is said to have named a Florentine artist and dealer, who in turn transferred the picture to a stranger, who finally disposed of it to some mysterious personage. But how it came into the possession of the Prussian authorities has yet to be traced. There appears to be no record in any English treatises on Italian art of the existence of so important a masterpiece either in Murano or in Bergamo. In the former place the church of St. Michael is rarely visited, and English travellers could not be expected to hunt after masterpieces in private houses in Bergamo. Mundler does allude to a picture in Count Roncalli's collection, but it is one by Carrini.

The American Society of Civil Engineers has on its roll 2,924 members. There is a balance in hand of nearly 27,000 dols. The publications for the past year amount to 3,329 octavo pages, with 136 plates and 142 cuts in the text, costing 15,424 dols. The Society can accordingly be considered as holding an independent position. The question then becomes important whether it should consent to be one of the four engineering societies to whom Mr. Carnegie offers about 1,000,000 dols. to be expended on a building in New York to serve their needs. The question is so important that the Board of Direction in a true scientific spirit has had a report drawn up in which the arguments for and against acceptance are stated impartially. Unless the four societies are willing to co-operate Mr. Carnegie declines to stand by his proposal. It is admitted on one hand that co-operation between the different classes of engineers is desirable. The contiguity of the several societies would also, it is believed, tend to the unity and strength of the engineering profession as a whole. "We should join hands," it is said, "with our brethren who are engaged in other lines, with the sincere desire that all work together to enhance the strength and influence of the engineering profession as a great unity." Against the project is the possibility that the independence and usefulness of the American Society of Engineers would be hampered. Self-reliance promotes pride among the members. The nominal assets of the Society would be increased by about 250,000 dollars. But the Society will be deprived of exclusive control of the property it occupies both as regards its management and the possibility of a change of investment. Nor can it be regarded as unquestionable that a greater intimacy between the severa societies would be mutually beneficial by developing a deeper professional spirit. The example of the British Institution of Civil Engineers is taken as an indication that a certain amount of exclusiveness and conservatism engenders in the members pride in the organisation and solicitude for its welfare, and begets in the public a reliance upon its character which might be jeopardised by an association with other organisations having different histories, aims and traditions. It is also believed that the share of the expenditure on a building having ten storeys is likely to exceed that on the existing building. The possibility of the financial failure of the other societies is also suggested. The issue is so important, the Board of Direction decline to take the responsibility of a decision. The Society at large will have to determine by vote whether Mr. Carnegie's generous proposal be accepted or declined.

The application of graphics to construction appears to excite less interest than it did twenty years ago. This does not arise from any defect in the system, but probably from the quicker methods of employing formulæ that have become familiar and have been tested repeatedly. Both systems possess their advantages, and one can be made to test the other. A small book by Mr. Edward Hardy on "The Elementary Principles of Graphic Statics" (B. T. Batsford) reveals as many of the mysteries as a beginner will desire, and a student who has mastered it will be able to follow out further investigations. With such a subject much depends on the diagrams, and in the book there are nearly two hundred. It is, we suppose, mainly intended for preparing for examinations, but it will be found to have its use in offices.

ILLUSTRATIONS.

FITZROY SQUARE.

ROMAN CATHOLIC CATHEDRAL, WESTMINSTER: THE APSE.

LADY BRABAZON'S HOME FOR GENTLEWOMEN.

Among the numerous philanthropic institutions which are associated with the names of the Earl and Countess of Meath, Brabazon House is not the least useful. A great many gentlewomen live in London as students or following occupations who desire accommodation of a different kind to that available in the ordinary boarding-house. In the building in Moreton Street, S.W., of which Mr. Ayling is architect, cubicles and bedrooms are obtainable on economical terms, and besides there are rooms which are shared in common. If desired, board can also be arranged for. A community of interest unites the tenants, and a substitute for home is provided which must be agreeable to a great many. There is accommodation for eighty-four occupants, who are able to enjoy a large share of independence without the shortcoming of feeling alone in London.

HOUSE AT CROYDON.

PAIR OF HOUSES AT EALING.

MEDIÆVAL ARCHITECTURAL REFINEMENTS.

An address was given in the Trowbridge Course at the Yale School of Fine Arts, in which announcements of discoveries of the greatest importance in architecture were made public for the first time. The address or lecture was on the "Asymmetry of French Cathedrals," and was by Mr. William Goodyear, curator of Fine Arts in the Museum of the Brooklyn Institute of Arts and Sciences. It is summarised in the *Yale Alumni Weekly*.

The subject-matter of Mr. Goodyear's lecture was visibly presented to the audience by screen enlargements of about 125 photographs. These represented a selection from some 500 negatives which have been personally made by the lecturer for the Brooklyn Institute of Arts and Sciences, between 1901 and 1903 inclusive, and from an additional number of some 300 negatives which were made under the personal direction of the lecturer in 1895. All of these have the mission of demonstrating visibly the constructive existence in Mediæval architecture of hitherto unknown and curiously delicate variations from exact symmetry and from presumably normal construction.

Beginning of the Investigations.

The investigation represented by these photographs began in 1870, but was not supported or developed until the Brooklyn Institute of Arts and Sciences took up the work in 1895, under the inspiration of a generous contribution from Mr. and Mrs. August Lewis of New York. The investigation was continued under these auspices in 1901 and more recently in 1903, with similar encouragement on each occasion from Mr. and Mrs. August Lewis.

Without dwelling on the preliminary and tentative stages of this research before its present standing and results have been described, it is only necessary to say that the address in the Trowbridge Course is understood to have been the first public announcement of this present standing and of these latest results of this investigation. These latest results bear in two directions They prove that what has hitherto been announced for certain individual and mainly Romanesque buildings in Italy is a general rule in the most famous Gothic cathedrals of Northern Europe. They also prove, by an examination of early Byzantine churches in Constantinople, that the architectural refinements of Greek antiquity were continued in the Byzantine period. Since such refinements had already been demonstrated for the Italian Romanesque by Mr Goodyear's work in 1870 in 1895 and in 1901, he is therefore now in position to show, by an unbroken chain of illustrations, a continuity of history for these architectural refinements, reaching from the Classic period of ancient Greek architecture to the Gothic period inclusive Nor is even this statement a complete account of the ground covered, because a Renaissance survival of one form of refinement can be dated to the close of the seventeenth century in the Schotten-kirche at Vienna. (Goodyear's observation and photographs of 1903.) On the other hand, the ancient Greek refinements were preceded by, and derived from the Egyptian (observations of Pennethorne at Medinet Habou in 1832, and of Goodyear at Edfou and Luxor in 1891.)

As to the recent observations in Mediæval Gothic, although the investigation of last summer was necessarily limited mainly to Northern France (aside from the examination of Byzantine churches at Constantinople) these observations involve the natural inference that the whole Mediæval architecture of Northern Europe will prove to be saturated with the same remarkable refinements.

Similar traits are already known to Mr. Goodyear in English Mediæval work, partly through his own unpublished observations, and partly through unpublished observations of his friends. As to Germany, only two localities were investigated this summer, viz Strasburg and Vienna, but the phenomena were observed and photographed in the Strasburg Cathedral and in the Thomas-kirche at Strasburg and in the Schotten-kirche at Vienna Vertical curves were also observed at Bamberg by Goodyear as far back as 1870. It is impossible to suppose that the phenomena can be limited to the localities in which they have been so far observed. Through these preliminary references it is apparent that all the Mediæval cathedrals of Northern Europe must be re-examined, with the absolute certainty of important results, based on the consideration that twenty-four sites out of the twenty-seven examined in Northern Europe in the summer of 1903 have furnished illustrations of the phenomena.

Vertical Curves at St Quentin.

It is now time to say what these phenomena are. The three illustrations which are selected from the church of St. Quentin will represent only one single class of observations, but for the purposes of a popular account it is best to begin with those traits which are most widely diffused and most easily described. In fact, these illustrations will render description almost unnecessary. According to the prejudices and invariable practice of modern construction, the piers of a church are made absolutely perpendicular, and they rise n lines which are mathematically straight. According to the almost invariable practice of the best periods of French Gothic as now made known, the faces of the piers which bear on the nave rise in delicate curves convex to the nave and in lines which diverge in the upward direction, as shown by the illustration.

The cases of divergence without curvature are not very numerous. They are instanced in St. Loup at Chalons, and in the Thomas-kirche at Strasburg and in the churches of St. Jean and St. Pierre at Caen. The cases of vertical curvature without divergence (as regards the comparison of distance between the bases and capitals of the piers) are not numerous, when the nave alone is considered. The cathedral of Noyon offers a remarkable instance of vertical curvature without outward divergence in the piers of the nave. Such instances are more numerous when transepts are compared with naves. Such churches show vertical curves without divergence, or with very slight divergence, in the transepts and with more defined divergence in the naves. The cases are extremely rare where the divergence is as great in the transepts as it is in the nave.

Most of the cathedrals and churches examined show vertical curvature with delicate divergence in the nave. Instances are the cathedrals of Paris, Dol, Coutances, Rouen, Amiens, Beauvais, Laon, Rheims, Chalons, Soissons, Chartres and Strasburg and the church of St. Remi at Rheims. Cases of vertical curvature with more pronounced divergence are the church of Montierneuf at Poitiers, the church of Notre Dame at Chalons and the church of St. Quentin. A case of pronounced divergence in the aisles without curvature and of delicate curvature in the nave is St. Alpin at Chalons. Notre Dame at Paris shows marked divergence with slight curvature in the great piers of the crossing, and marked curvature with slight divergence in the nave and choir.

Only one thing is more remarkable than the widespread application of the principle and that is the variety of method and amount in the use of the curvature, both as regards different churches and as regards different parts of the same church. It should be added that the facts are generally quite uniform as regards the whole of the nave, the whole of the choir, or the whole of one side aisle. It is, however, an almost universal rule, also found in Italy and at Constantinople, that the divergence is stronger on the right side than on the left (in the direction of the choir). Cases where the widening is only in the apse or choir and not in the nave are occasionally found. Instances are St. Radegonde at Poitiers and the Schotten-kirche at Vienna.

Purposes of the Refinements.

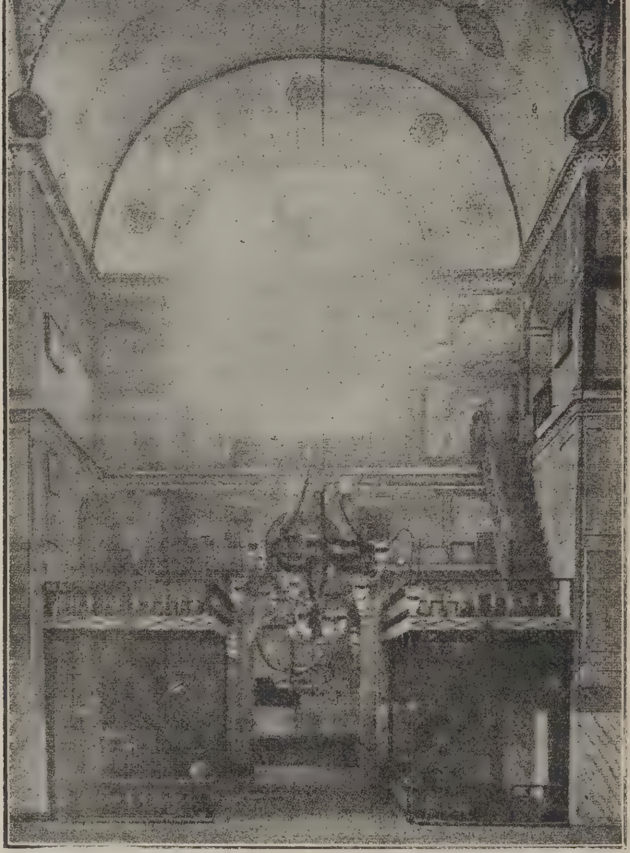
The purpose of this particular refinement as regards the divergence or widening is probably to correct the apparent narrowing together of lines, in the upward direction, which is due to natural perspective, and which tends to give a contracted appearance and a spindling effect to the upper part of a church. The divergence gives an effect of spaciousness and amplitude to the upper part of the nave. The spirit of this refinement is best understood by study of the churches which do not possess it. The cathedral of Tours or the modern reconstruction of the cathedral of Périgueux, the cathedral of Bayeux and the church of St. Maclou at Rouen are instances of the absence of this refinement. All the modern churches of the United States and of Europe lack it and are notably inferior to their supposed models, which really have never been understood and really have never been copied.

The purpose of the divergence is also understood by remembering that it is, generally speaking, the most convenient means of obtaining a vertical curvature. Here again the æsthetic importance of the curve is best understood by comparing the monuments, both modern and Mediæval, which do not exhibit it, with the buildings which do exhibit it. According to Mr. Goodyear, the problem is not so much to explain the curves as it is to realise the decadence of the modern artistic sense which is the cause of their disappearance.

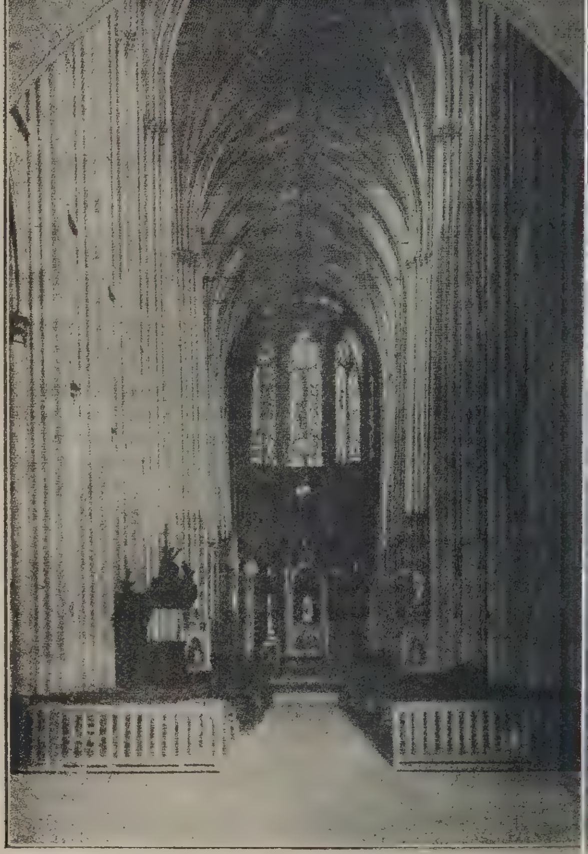
Decadence of the Artistic Sense.

This disappearance is due first to the overthrow of the Gothic style by the Renaissance and to the contempt for the Gothic which characterised the Renaissance. The disappearance of the practice is due, in the second place, to all those various causes which explain the rapid decadence of the arts of design after the middle of the sixteenth century—a decadence which culminated in the bad taste of the nineteenth century and which it was the mission of the art revival of the nineteenth century to combat and explain. Among these causes may be mentioned the division of labour and the specialising of occupations which divorced the career of the architect from that of the practical builder and mason, and the invention of printing, which has developed the brain of the book student at the expense of the manual arts of the craftsman and artisan. In fact, the causes are too numerous to mention, since they comprise most of the boasted differences between the culture which preceded the art of printing and that which followed it. The epigram of D'Israeli that "Reading has ruined education" might be quoted here.

To the possible and frequent question why there is no literary mention of such Mediæval refinements, the answer is that literary accounts of architecture were unknown to the Middle Ages. How then could we expect literary mention in a kind of literature which did not exist? The memorable fact is also to be quoted that none of the architectural refinements which were practised by the Greeks are mentioned in the ancient classic literature, with the sole exception of the Greek horizontal curves. There is only one extant classic writer who mentions the Greek horizontal curves, and the significance of the famous passages in Vitruvius was overlooked by 300 years of modern scholarship until the inspired intuition of Pennethorne connected this passage with his own observations at Medinet Habou in 1832. Thus it was that the horizontal curves of the Parthenon were discovered in 1837, after Pennethorne had been twice in Athens without observing them.



T. MARY DIACONISSA AT CONSTANTINOPLE.—A sixth-century Byzantine church. View showing the widening refinement. The piers diverge a foot in a width of 32 feet. Note the plumb-lines on either side.



CHURCH OF ST. QUENTIN. — Mediæval Gothic (twelfth fifteenth centuries). The piers rise in vertical curves, wh diverge to the amount of $4\frac{1}{2}$ feet in a height of 80 feet.

Mr. Goodyear has, however, discovered two instances of literary mention of the Mediæval widening refinement, viz. a passage in the description by Procopius of Sta Sophia at Constantinople and a passage in Evelyn's Diary (seventeenth century) relating to the older Gothic St. Paul's, which was destroyed by the Fire of London. To understand these simple passages it is, however, necessary to have first rediscovered the refinement itself. They have hitherto been unnoticed by modern scholarship.

Link Between Antiquity and Middle Ages.

In 1874 it was announced by Mr. Goodyear that the refinements which he had discovered at Pisa in 1870 were probably connected with those of classic antiquity by way of Byzantine transmission. This announcement was repeated in the publication which he made on the architectural refinements of St. Mark's at Venice at the beginning of last year. The passage of Procopius, which has just been mentioned, was found in Letheby and Swainson's book on Sta Sophia, on the day of sailing from New York in July last. Thus the discovery of the Mediæval widening refinement in the building which must be regarded above all others as the connecti link between classic antiquity and the Middle Ages w assured in advance. The horizontal curves of classic antiqu were also discovered last summer in Sta Sophia, and the were thus connected with the long line of observations whi Mr. Goodyear has already published on Italian cloisters a Italian churches.

It is necessary to abandon the topic of the vertical curv and diverging piers in order to give some account of t remarkable discoveries in Notre Dame at Paris, which ha placed that building, according to the lecturer, on the sar plane with St. Mark's at Venice and the Pisa Cathedral, a long line of incredibly subtle arrangements palpably design for optical effects. Notre Dame is said to stand quite ap from other French cathedrals so far examined as regards refi ments which do not relate to the vertical curves.

From the series of eighty-five negatives which the lectu had made last summer in Notre Dame, some thirty we exhibited on the evening of December 1 for the first time to a public audience.

As regards the remarkable expertness of masonry co struction which is at stake in all these devices, attention m be called to the second and third illustrations for the verti curves in the church of St. Quentin. These photogra represent two separate but adjacent sides of one pier (photographs being taken so as to represent the point of vi of a spectator looking up the pier). They thus represent intersection of two distinct systems of vertical curves— system for the nave and another intersecting system for transepts. Thus two intersecting curves are built into single pier in surfaces at right angles to one another. T three other piers of the crossing show, of course, the same c struction. Some of the unillustrated marvels in the maso of Notre Dame may be imagined from these two photograp

Mr. Goodyear was introduced by Professor Weir, wh own contributions to these novel investigations in the shape observations at Chartres, at Beauvais, and in Notre Dame Paris, were subsequently described during the lecture.

The speaker began by remarking that the only asymmetr to be described were those which could be announced as c structive and not accidental. If constructive, and theref intentional, they must have had a purpose. This purpose m have been that of increasing the beauty and attractivenes ne church or cathedral, according to the standards of a period hose taste in such matters was undoubtedly superior to our wn.

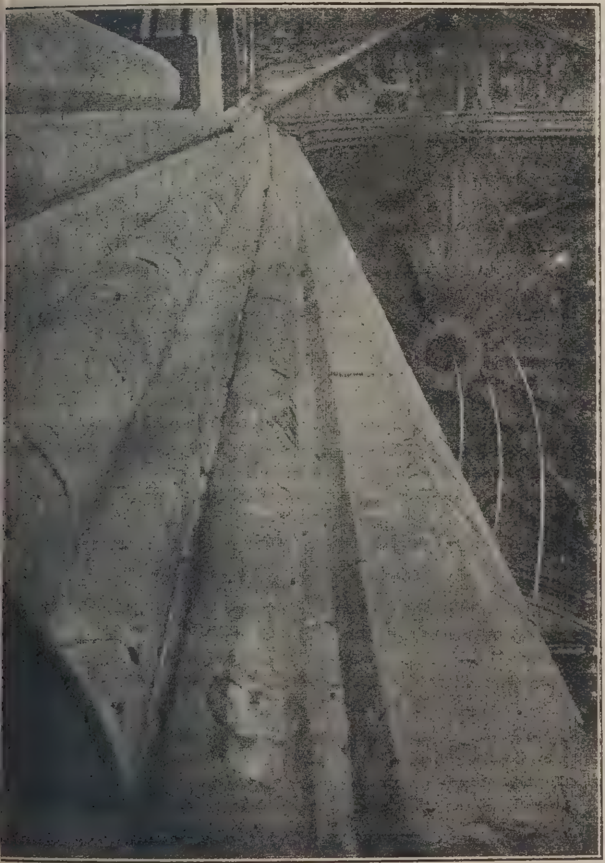
We designate such asymmetry, said the speaker, as an rchitectural refinement. But architectural refinements have ot hitherto been recognised as characterising the cathedrals f the Middle Ages, hence a brief account of what has itherto been known of them must precede a description of hose which have been recently discovered. Contrary to ossible impressions which may be very general, there was no nodern knowledge of Greek architectural refinements before he opening of the nineteenth century. Although the English rchitects Stuart and Revett began their studies of the arthenon in 1756, it was not until 1810 that even the entasis f the Greek columns was observed. This was discovered by ockerell. The constructive inclinations of temple columns vere first observed by Donaldson in 1829. The first observaions for the Greek horizontal curves were made in 1837. No neasurements of these were made until 1845 The first publiation of definite measurements for the Greek refinements was nade by Penrose in 1851. The horizontal curves in plan in he temple court of Medinet Habou were not published by Pennethorne until 1878, although observed in 1832. The horizontal curves in plan at Pæstum were unknown to the theories of Penrose. The horizontal curves in plan of the Maison Carrée at Nîmes were discovered by the lecturer as recently as 1891.

From these and other dates and facts the speaker drew the conclusion that such knowledge as is possessed of the Greek refinements is of so recent a date as to lessen the surprise that similar discoveries of Mediæval subtleties should be still more recent. For, strange as it may appear, the earliest modern studies of the Mediæval cathedrals were from fifty to seventy-five years later than the beginnings of the modern study of the Greek temples (after 1750). The earliest modern studies of the Mediæval cathedrals are therefore subsequent to the opening of the nineteenth century, and the modern interest in these cathedrals was preceded by three centuries of pronounced aversion to Mediæval styles and of absolute neglect of Mediæval buildings.

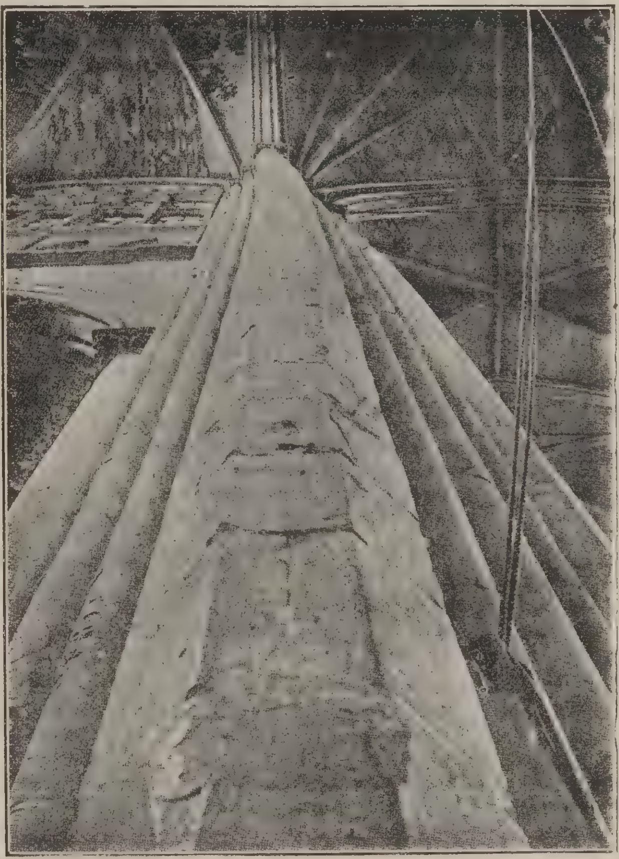
Curves "in Plan" of Egyptian Temples.

The introductory account of the Greek curves also led the speaker to the conclusion that the curves "in plan," such as are now, but only very recently, known to exist at Pæstum, in the Maison Carrée at Nîmes and in the Egyptian temples, must be considered as having equal importance with the curves "in elevation," although the former have been generally unknown to the writers on the theory of the Greek curves. The discoveries of Mediæval curves in plan, for instance in Notre Dame, appear more significant when similar curves are recognised as having already been used by classic antiquity. As they were found last summer in Sta Sophia at Constantinople there is no further doubt that the Mediæval curves were inherited from classical antiquity.

The first pioneer in the observation of mediæval architectural refinements was John Ruskin, who published in the "Stones of Venice," in 1849, a few sentences regarding intentional and subtle variations from regularity of measurements in intercolumnar spacings on the façades of Venetian palaces. In 1851 Ruskin published the "Seven Lamps of Architecture," and in his "Lamp of Life" formulated, according to the belief of the speaker, the best philosophy which has ever appeared in print of the general topic of Mediæval architectural asymmetry. His observations were confined, however, to the facts of variations in the dimensions of arcades and of intercolumnar spacings in the Pisa Cathedral, and he made no later publications on the subject.



CHURCH OF ST. QUENTIN.—South-west pier at crossing of nave and transept. View looking up the west side of the pier. Showing the vertical curves of the nave system which intersect the vertical curves of the transept system, shown on the adjacent south side.



CHURCH OF ST. QUENTIN.—South-west pier at crossing of nave and transept. View looking up the south side of the pier. Showing the vertical curves of the transept system which intersect the vertical curves of the nave system, shown on the adjacent west side.

Dates of the Discoveries.

It was in 1870 that Mr. Goodyear's observations began, also at Pisa. As distinct from the class of facts noted by Ruskin and aside from making many notable additions to that class of facts, Mr. Goodyear was the first to announce the constructive existence and æsthetic purpose of various remarkable, but generally unnoticed, deviations from the normal regularity of surfaces and lines in the Pisa Cathedral. The first publication regarding these discoveries of 1870 was made in *Scribner's Magazine* in 1874. In 1891 the lecturer discovered horizontal curves in plan in the entablature of the Maison Carrée at Nîmes. This is the first and only observation which has so far been published for the use of Greek refinements in Roman buildings. In the same year he supplemented the observations of Pennethorne at Medinet Habou by additional observations in other Egyptian temples.

In 1895 the observations which had been made at Pisa and in Venice in 1870 were extended over the whole of Italy, during a surveying trip which lasted six months and which was carried out with the co-operation of the Brooklyn Institute of Arts and Sciences. Under the same auspices three months were spent in Italy in 1901 in continuing the investigations into Mediæval refinements.

With these preliminary explanations Mr. Goodyear took up the task of illustrating the work which he has carried out for the Brooklyn Institute in Northern Europe and at Constantinople in 1903.

In closing, Mr. Goodyear paid a tribute to the persons who have supported these researches with an aggregate expenditure of some 10,000 dollars up to date. Among these were mentioned Mr. and Mrs. August Lewis of New York, and the Director, President and Trustees of the Brooklyn Museum. The treasurer of the Museum Board of Trustees is Mr. William B Davenport.

PROPOSED SHAKESPEARE MEMORIAL.

THE historical records and buildings committee of the London County Council report the receipt of a letter from Mr. Richard Badger with reference to the proposal to erect a memorial to Shakespeare in London. The committee state that there exists no adequate memorial in London, and they felt sure that Mr Badger was but expressing the feeling of Londoners in suggesting that some fitting and permanent memorial should be erected. In the letter which conveys his offer, Mr. Badger states that, if the Council saw their way to undertake the duty at once and to provide a suitable site for a statue, he was prepared immediately to place in their hands the sum of 500*l*., to be used in the promotion and carrying out of the scheme, and an additional sum of 2,000*l*. in aid of the cost of the memorial, on trust, to be returned to him or his executors, if by the end of 1905 the amount subscribed by the public was considered by the Council inadequate to the proper carrying out of the work. He had confidence that if the Council accepted his offer the memorial would be of the highest artistic excellence. It would be in unison with his feelings if the Council extended the privilege of subscribing to the fund to small subscribers irrespective of nationality. Mr. Badger added that he was educated at Stratford-on-Avon in 1833-34. The committee felt certain that it would be the wish of the Council to accept the offer made by Mr. Badger and to further by all means within its power the object which he had in view. They thought that the Council should at once signify its assent to Mr Badger's proposal. It might be mentioned that by so doing the Council would be committed to no expense, as the gift of 500*l*. would cover the whole cost of the preliminary expenses of promoting and carrying out the scheme.

REGISTRATION OF ARCHITECTS.

ON Thursday evening, the 11th inst., the subject of registration was discussed at a meeting of the Leeds and Yorkshire Architectural Society.

Mr. Seth-Smith said that legal examination would raise the status of architects and enable the public to distinguish between the qualified and unqualified practitioner. The art as such only existed in its application to utilitarian needs, and architects would ever be employed mainly for their practical qualifications. Registration, so far from disintegrating the profession, would unify it by the bonds of a common qualification and brotherhood.

Professor Pite said it was impossible by means of any examination to test a man's artistic conceptions. The tendency of making architects by examination would be to make many of them satisfied with a low ideal. Architects were not medicine men licensed to kill. They were not studying a high and dry science like law; they were people whose position in the country and in the profession depended upon the level of their artistic ideas.

Mr. G B. Bulmer said that in three-fourths of their work there was no scope for their artistic souls. Compulsory registration would insure three-fourths of their work being done better than at present.

Mr. R P. Oglesby said there could be no divorce between the artistic and practical elements of architecture. Mr. Pite offered the whole profession education. Education is to be handed round on trays It is to be co-ordinated, and made to look as ambrosial as possible. The architectural millennium will then arrive, and the constructional lion will lie down alongside the artistic lamb. Of course, this is a very beautiful idea. But will the students rush for co-ordinate education any more than they do for the present excellent advantages which are offered? Not at all. You may lead the student to the educational waters, but, as things are at present, you will not necessarily make him drink. Mr. Seth-Smith's idea is more practical. He would take the student willy-nilly and plunge him head over ears in the crystal depths of education. Mr. Pite would probably remark, "Ah! but remember the hee Achilles." Mr. Seth-Smith replies confidently that it will case of total and absolute immersion. The student wil thoroughly examined on leaving the water, and if there sh be found on him one dry spot, in he goes again. And n than this, with the establishment of registration the stu will be only too willing and anxious to be dipped, anxiou be made as invulnerable against commonplace and medi thoughts and deeds as the educational stream will per This would do more than co ordinate education; it would ordinate the profession. To raise the standard of trainin to raise the standard of architecture, and it is not by opti but by compulsory methods that this end will be achieved.

Messrs. J. B. Howdill, H E Chapman, A. Mars H. Perkin and T. Monkman also spoke in favour of registion.

Mr. Sidney Kitson contended that if they wanted to the enterprising rent collector and superannuated cler works out of the profession they must show the public th a result of superior education and training they could infinitely better work than those gentlemen.

The proceedings terminated, after nearly three hours' with votes of thanks to the leaders of the debate.

AMERICAN EXAMINATIONS.

THE following papers are given in the *Bulletin* as use the examinations held in June and November, 190 qualify for candidature as Associate in the American Inst of Architects.

I. CONSTRUCTION.

Three Hours.

(In making calculations, the Carnegie, Pencoyd, or sin book of sections and tables may be used.)

1. Given a bay included between an exterior brick wall an interior parallel line of columns of a three-storey wareh with cellar; heights of storeys from floor to floor—cellar, 10 first storey, 12 feet; second and third storeys each 10 live load to be provided for, 300 lbs. per square foot; spa of columns, 15 feet on centres; distance from centre of col to inner face of brick wall in third storey, 15 feet; the t storey posts and the roof are to be of slow-burning wood struction; all remaining columns of cast-iron, and all floo steel girders and beams, with terra-cotta arches; all floor to be finished in cement, the roof with slag; resistance of 3 tons per square foot. Determine the following by calcula and explain them by a section drawn to scale through building from the roof to the bottom of footings:—Roo plank, girders, beams, columns, thickness of exterior footings.

2. Write a specification covering the ingredients, mann mixing and laying the concrete footings for the above house.

3. Describe the system of heating and ventilation by m of blowers, known as the "plenum" system.

4. Describe the purpose and method of (*a*) the air-pre test, and (*b*) the peppermint test for a system of house d age.

5. Show by means of a section the ordinary constructi a frame-house two storeys high, with sloping roof, namin several parts and giving the usual sizes of timbers.

II. FREEHAND DRAWINGS.

The examination in freehand drawing to qualify for c dature as Associate Member in the American Institu Architects shall consist of a shaded drawing in pencil, cha or crayon (the shading to be either by lines or tones), from a model or cast of an architectural detail or accessory, as a console, modillion, acroterium, finial, capital, vase or goyle, containing some ornament which is not purely geom The object shall be represented in angular perspective, the drawing shall be not less than 18 inches in its l dimension. It must be completed in not more than hours.

The choice of the object is left to the examiner.

III. HISTORY OF ARCHITECTURE.

Three Hours.

1. *Classic Architecture.*—Explain in writing and by ske the fundamental constructional difference between the Gr and the Roman styles.

2. *Gothic Architecture.*—(*a*) What were the causes brought the style into being? (*b*) How long did it last? (*c*) important changes did it undergo? (*d*) Name a ty building of the style in France, England, Italy, Germany Spain.

3. *Renaissance Architecture.*—(*a*) Where and when d come into being? Under what conditions? (*b*) How wa influence transmitted to France, and in what way was its first felt? (*c*) In what forms did it reach America? (*d*)

important building in the style in Italy, France, Germany, in, England and America.

4. Define five of the following words:—Impluvium, cam- ile, abacus, grille, apse, stylobate, bay, groin.

5. Name the century in which five of the following architects d, the localities in which they were active, and one or more dings designed by each of the five selected:—Bramante, nus, William of Sens, Garnier, Wren, Giotto, Palladio, nelleschi

6. Make a sketch plan and section of three cf the following ldings:—(*a*) A Greek temple, tetrastyle, amphiprostyle; (*b*) reek or Roman theatre; (*c*) Roman thermæ; (*d*) a Byzan- basilica; (*e*) a Pompeian house; (*f*) a Gothic cathedral; a Renaissance church.

IV. ELEMENTS OF ARCHITECTURE.

Three Hours.

A Orders.—Draw at one-eighth full size the Greek Doric er, with quarter plan of shaft, the entablature being 8 feet h. Name the several parts of the order.

B. Openings—Sketch an important window or doorway in of the following styles:—Greek, Roman, Italian Re- ssance. Sketches to be not less than 6 inches high.

C Mouldings.—Draw in elevation and section the egg and t moulding in both the Greek and Roman styles. Each wing to be 2 inches high.

V. ARCHITECTURAL DESIGN.

An Artist's Studio.

A painter has bought near a large city a lot of 100 feet ntage by 400 feet in depth, on which he proposes to build a ise and a studio building, with garden between. The present blem consists of a design for the studio cnly and its imme- te surroundings; the building may be either isolated or nected with the house by means of a gallery, portico or ered way.

Besides the studio room proper, which may have a gallery, l must be lighted by a single large vertical window directed ard the garden (no top light), the plan must provide for a other rooms such as a small library, model's room, toilet- m, rubbish-room.

The exterior is not to be of a mere rustic character, but must sent definite architectural forms. It may be of stone, or a nbination of stone and brick, and must plainly disclose its pose.

No dimensions are given It is desired merely that it shall e an agreeable proportion to the property.

Preliminary Drawings—Sketch plan and elevation of the lding at ⅛ inch per foot. Indications of surroundings are required. To be finished in eight hours, the applicant aining a tracing of same to which his final design must nform in its essential features.

Final Drawings.—Plan at ⅛ inch of the entire width of perty, with such depth as may be necessary to show the ting of the studio, but not enough to include the house. evation of studio towards garden at ¼ inch. Section at ⅛ inch. ndering to be in wash essentially monochrome, with the nventional shadows.

To be accompanied by a statement that the actual drawings ve been executed by the applicant without the assistance of y other person or persons.

ANCHESTER ASSOCIATION OF ENGINEERS.

HE anniversary dinner of the Manchester Association of Engineers was held on Saturday evening at the Grand tel, Aytoun Street, Manchester, under the presidency of r. Alfred Saxon There was a large attendance, which in- ided the president of the Institute of Mechanical Engineers r Wicksteed, Leeds), Professor Arthur Schuster (Man- ester University), Mr. T. L. Miller (president of the Liver- ol Association of Engineers), Lieutenant-Colonel Holling- rth (president of the Manchester Geological and Mining ciety), Mr. J Cartwright (president of the Manchester Associa- n of Students of the Institute of Civil Engineers), Mr. Ivan vinstein (ex-president of the Manchester Chamber of Com- erce), Mr. J. H Reynolds (director of the School of Techno- gy), Mr. W E Storey, Mr E. G Constantine, Mr. J asmith, Mr. T. Astbury, Mr. Frank Hazelton (secretary) and ers.

Mr. Constantine (vice-president of the Association), in oposing "Our Educational Institutions," said the facilities ovided for the higher scientific education of Manchester uths and men at the Grammar School, the School of chnology and the Manchester University were second to ne. He was glad to know that less attention was now given cramming and more to teaching the student to think for himself. There was no question that unless we gave attention, as we now did, to education we should suffer. "What was good in the days of George Stephenson will scarcely serve to day." At that time we were the engineers of the world, but we have educated the world until it has, I will not say outstripped its teachers, but become a very close second. Mr. Constantine, however, had not lost faith in his country. "To any man who tells me," he said, "that our country is done I say, 'You had better get out of it.' We are not done, and in spite of all temptations to belong to other nations we are still Britishers and intend to remain so."

Professor Schuster, who had to respond, humorously remarked that the toast included all educational institutions, beginning, he supposed, with the University and ending—he did not know where, but perhaps with the Pleasant Sunday Afternoons, "about which we have heard something lately." He did not know at what end he was to begin. He had no experience of P.S.A.'s. His experience ended with "pleasant Saturday evenings," such as the one they were having that night. Beginning, however, with the University, Professor Schuster said that, no matter what Bills were passed or were not passed by Parliament this year, he was certain that one Bill would pass, and that was the Bill which would dissolve Owens College and hand over its assets and liabilities to the Manchester University. He hoped that before many weeks were over there would be a close and an organic connection between the University and the technical school. Valuable, however, as these educational institutions were, the most important part of an engineer's training was that which he received in the workshop Whatever the technical schools might do or aim to do, they could only turn out the raw material, and it was for others to make engineers out of that material. It would be a mistake for the schools to do more. His hearers must consider that the youths the schools turned out were ready to learn, and must actually learn their profession in the workshop He hoped the students were taught to think, but their real education in their profession was gained in the first two or three years they spent with the engineers themselves.

The President, in responding to the toast of "Prosperity to the Association," which had been proposed by Mr. Wicksteed, said the Manchester Association of Engineers was not many years younger than the Institute of Mechanical Engineers. The Institute celebrated its jubilee in 1897 at Birmingham, and in two years hence the Association would have its jubilee celebration. In 1887, when the Jubilee Exhibition was held in Manchester, the Association had only 323 members To-day it numbered 530—an increase of 207, or 67 per cent. In thinking how best to celebrate the jubilee of the Association, it had occurred to him that they might take part in an international exhibition to be held in Manchester, when they could extend an invitation to the Institute of Mechanical Engineers to again visit them; or that they might, like Glasgow, hold an international engineering congress There had been some suggestion of an exhibition, but it had not been favourably received. On this point he would like to say that if the promoters of the last exhibition would only form the "Old Guard" in connection with a new exhibition he would be very glad, but if not he hoped they would, like the old Infirmary Board, retire gracefully on their laurels and let others take up the question from a purely public and disinterested point of view. He could give many reasons why an exhibition would be to the advantage of this city and district. Many things had happened since 1887. Manchester was now a port, open to the commerce of the world. Manchester had also those great educational institutions to which reference had already been made, and what was more likely to teach parents the value of technical instruction or to fire the youth of our city with a desire to excel in their professions than getting in touch with a great exhibition?

Mr. T. L Miller proposed "The Engineering and Allied Trades," and Mr. I. Levinstein and Mr. W. E. Storey responded.

Mr. Levinstein said when one considered the influence of foreign competition on our trade, it struck one there must be some cause even outside education. Of course it was no use building Charlottenburgs if you had not students prepared to take advantage of such places, as they had in Germany. In England the trader was greatly handicapped by the high rates charged for carriage. He believed nothing had been more helpful to the development of the mineral resources of Germany than low freights. They were about half what we paid. If the same rates were paid in England as those which the Germans paid, the English traders would save 27½ million pounds in one year. It was not only the manufacturers of this country who wanted waking up. It was the Government. It was the Government and our legislators who had shown the greatest indifference hitherto to commercial affairs.

The last toast on the list was "Our Guests," proposed by Mr. T. Astbury, and acknowledged by Mr J. Cartwright and Colonel Hollingworth.

ENGINEERING STANDARDS COMMITTEE.

THE Engineering Standards Committee first commenced its operations in April 1901. A work of this kind must necessarily be of a laborious and protracted nature, and though comparatively few reports have as yet been actually published by the committee, an enormous amount of information and material has been collected, and a large number of specifications and findings are approaching the stage of completion. Before a standard specification can be arrived at many interests have to be consulted and conflicting views harmonised as far as possible.

The simplest way to give an idea of the multifarious inquiries and operations being carried on will, perhaps, be to deal *seriatim* with the various committees and the work in which they are engaged.

The whole work is under the control of what is known as the main committee, consisting of the official representatives of the five supporting institutions, viz :—The Institution of Civil Engineers, the Institution of Mechanical Engineers, the Institution of Naval Architects, the Iron and Steel Institute, the Institution of Electrical Engineers.

To this committee, of which Mr. James Mansergh, P.P. Inst C.E., is chairman, falls the duty of organising the work, considering what subjects shall be dealt with, appointing the chairmen of the various committees, passing the reports of the committees before they are published, controlling the expenditure, and devising the means of raising the necessary funds to carry on the work.

Immediately under the main committee there are 12 sectional committees, and under these again 18 sub-committees, the total membership being 192.

The different committees and sub-committees have been holding meetings as occasions have required, some sitting once a fortnight, others at longer intervals.

The first report issued was that on standard rolled sections for constructional work drawn up by the committee on sections used in shipbuilding (chairman, Mr. Archibald Denny), the committee on bridges and building construction (chairman, Sir Benjamin Baker, K C.B.), and the committee on railway rolling-stock underframes (chairman, Sir Douglas Fox). The standard sections are now gradually, but surely, finding their way into use throughout the Government departments, as well as the general trade of the country.

The committee on tests for iron and steel material used in the construction of ships and their machinery (chairman, Mr. Archibald Denny) has been engaged in drawing up a standard specification for steel used in the hulls of ships. This committee has already presented one report to the main committee, and the recommendations arrived at are now being considered by the committees on bridges and underframes, to see how far the views of these three committees may be brought into line, so as to cover the requirements of their respective interests.

No findings are arrived at without the most careful inquiry, and, if need be, extensive experiments Professor Unwin's report on the work carried out by him for this committee, which has recently been published, forms an admirable example of the thorough way in which the committee's work is being done.

A small sub-committee nominated by the committee on tests for steel and iron material used in the construction of ships and their machinery is engaged in drafting a specification for boiler steel.

The locomotive committee (chairman, Sir Douglas Fox) has completed the consideration of a very interesting question referred to it by the Government of India, namely, that of recommending a series of standard types of locomotives for Indian railways. A conference was convened between the leading consulting engineers for Indian railways and the principal locomotive manufacturers ; and, after many meetings, a report was drawn up and forwarded to the Secretary of State for India, who now has it under consideration.

The locomotive committee has the following five sub-committees dealing with different branches of their work, viz. :—

1 A sub-committee on component parts and types (chairman, Mr F. Wolley-Dod) has been chiefly engaged in preparing, in conjunction with the conference of locomotive builders and consulting engineers, the report on standard locomotives for India mentioned above.

2. A sub-committee on locomotive steel plates (chairman, Mr. William Lorimer) has drawn up a draft specification for locomotive boiler steel plates, which has still to be considered by some of the other sub committees.

3. A sub-committee on tires, axles and springs (chairman, Mr. William Lorimer) has been engaged in drafting standard specifications for tires, axles, springs, castings and forgings, and it is hoped that these will shortly be reported to the locomotive committee for approval.

4 A sub-committee on copper and its alloys (chairman, Mr. William Dean) has prepared a standard specification for copper plates, rods, tubes, &c, used in locomotives, and this will shortly be issued.

5. A sub-committee on tire profiles (chairman, Mr J Holden) is preparing a set of standard tire profiles, which be published when the series of standard rails have been f decided upon.

The committee on rails (chairman, Sir John Wolfe B K C.B.), has divided its work into two sections, which are dealt with by two sub-committees :—

1. The sub-committee on railway rails (chairman, Mr. J C. Inglis) is engaged in drawing up two series of sta rails, rising by increments of 5 lbs. at a time.

The series of bull-headed rails ranges from 60 lbs. to 10 per yard.

The series of flat-bottomed rails ranges from 20 lb 110 lbs. per yard.

These sections and the accompanying specifications now been circulated amongst the leading railway comp and engineers of this country, and will it is hoped be publ at no very distant date.

2. The sub-committee on tramway rails (chairman Howard-Smith) has already issued its report, and publis series of standard sections and accompanying specificatio

Two committees, presided over by Mr. H F Dona are dealing with the subjects of screw threads and limit ga These committees have held several meetings and colle large amount of information on these two intricate and di subjects, and are now sitting regularly to hear evidence the leading engineers and screw makers of this country

The committee on pipe flanges (chairman, Mr. W Maw) is busy drawing up a series of standard flanges fo medium and high pressures, the work being done by committee who are busily engaged in drafting the pro lists of flanges.

The committee on cement (chairman, Mr. W Matthews, C M.G.) has handed over to a small sub-com the preparation of a draft standard specification. This completed in the near future, when it will be thorough cussed by the committee as a whole.

The committee on cast-iron pipes (chairman, Mr. C Hawksley) is at present in process of formation and has begun its labours, but an important conference of the l pipe-founders of this country has already been held in c tion with the work of the committee.

The electrical section is a large and important one, c ing of the electrical plant committee (chairman, Sir W Preece, K.C.B.), and the following sub-committees :—

1. The sub-committee on generators, motors and formers (chairman, Colonel R E. Crompton, C B) is en in drawing up standard sizes of generators and motors, standardising speeds, frequencies, electrical pressures, &

Important conferences with the leading consulting eng and makers are being held at which these different subje being fully and carefully discussed.

2. The sub-committee on transformers (chairman C. P. Sparks) deals with the standardisation of transfor

3. The sub-committee on physical standards (cha Dr. R. T. Glazebrook) deals with all subjects touchi physical standards upon which the various reports are as well as undertaking any experimental work which required.

4. The sub-committee on nomenclature (chairman, Pr Silvanus P. Thompson) is engaged in bringing into line as possible, the nomenclature employed in this im branch of engineering.

5. The sub-committee on telegraphs and telephones man, Mr. John Gavey, C B.) has drafted a standard sp tion for wires used in the construction of telegrap telephones.

6. The sub-committee on cables (chairman, Mr. Kaye Gray) has also drafted standard lists of sizes of &c., and the wires composing the same.

7. The sub-committee on electric tramways (chairma A. P. Trotter) is at present engaged in dealing with th dardisation of tramway poles, trolleys, &c.

Three other sub-committees dealing with electrical are in process of formation.

The publications and calculations committee is resp for the supervision of the various calculations which be made and for the final revision of all reports prior to cation. The calculations in connection with standard have already been published, and those for the other s will follow at no very distant date.

The committee are indebted to the generosity Majesty's Government, the five supporting institutio railway companies and the leading engineering firms country for the funds necessary to carry on the work Th are administered under the main committee by two comr

1. The finance committee which controls the o expenditure of the committee.

2. A committee appointed by the Institution of Civi neers, at the request of the Government, to control the diture of the grant in aid, and on which the Board of

ve appointed Colonel Sir Herbert Jekyll, K.C.M.G., R.E., their representative.

From the number of subjects being dealt with and the mber of committees actually at work, some idea may be hered of the far-reaching extent of the committee's labours, the enormous influence which their findings must ulti- tely have on the trade and commerce of this country.

His Majesty's Government have recognised the utility of committee's labours, and made them a grant towards the essarily heavy expenses incurred in carrying on a work of s nature. Having made their grant dependent upon the ount subscribed by the industries interested, it is confidently ped that the leading firms in this country will not allow the rk of the committee to be curtailed for want of financial pport.

The whole secretarial work is carried on by Mr. Leslie S. bertson, M.Inst.C.E., at the offices of the committee, Victoria Street, S.W.

TESSERÆ.

Da Vinci's Limitations.

HE universality of Leonardo da Vinci is become proverbial, but though possessed of every element he rather ve glimpses than a standard of form; though full of energy, had not powers effectually to court the various graces he rsued. His line was free from meagreness and his forms sented volume, but he appears not to have ever been much quainted or to have sedulously sought much acquaintance h the antique. Character was his favourite study, and aracter he has often raised from an individual to a species d as often depressed to caricature. The strength of his cution lay in the delineation of male heads; those of his nales owe nearly all their charms to chiaroscuro, of which he he supposed inventor; they are seldom more discriminated in the children they fondle; they are sisters of one family. e extremities of his hands are often inelegant, though timor- sly drawn, like those of *Christ among the Doctors.* Leonardo Vinci touched in every muscle of his forms the master-key the passion he wished to express, but he is ideal only in iaroscuro.

Raphael's "Transfiguration."

Raphael has connected with the transfiguration, not the cure the maniac but his presentation for it. If, according to the spel record (Matt. xvii. 5, 6), this happened at the foot of the untain, whilst the apparition took place at the top, what probability is there in assigning the same moment to both? phael's design was to represent Christ as the Son of God, d at the same time as the reliever of human misery, by an equivocal fact. The transfiguration on Tabor, and the raculous cure which followed the descent of Christ, united, nished that fact. The difficulty was how to combine two ccessive actions in one moment. He overcame it by crificing the moment of the cure to that of the apparition by plying the lesser miracle in the greater. In subordinating cure to the vision he obtained sublimity; in placing the wd and the patient on the foreground he gained room for full exertion of his dramatic powers. It was not necessary at the demoniac should be represented in the moment of covery, if its certainty could be expressed by other means— is implied. It is placed beyond all doubt by the glorious parition above; it is made nearly intuitive by the uplifted nd and finger of the apostle in the centre, who, without sitation, undismayed by the obstinacy of the demon, un- ved by the clamour of the crowd and the pusillanimous epticism of some of his companions, refers the father of the aniac in an authoritative manner for certain and speedy help his Master on the mountain above, whom, though unseen, is attitude at once connects with all that passes below. Here the point of contact, here is that union of the two parts of e fact in one moment, which Richardson and Falconet could t discover. The vision on Tabor, as represented, is the most aracteristic produced by modern art, whether we consider e action of the apostles overpowered by the divine effulgence d divided between adoration and astonishment, or the forms the prophets ascending like flame, and attracted by the lucid ntre, or the majesty of Christ, whose countenance is the only e expressive of superhuman nature. That the unison of such wers should not for once have disarmed the burlesque of the rench critic rouses equal surprise and indignation.

Royal Palaces.

There are throughout the whole of Europe very few royal alaces, whatever may be their magnitude, at all distinguished superior architectural taste. In the French capital it is ly the eastern façade of the Louvre, the river front and the ner court which can lay claim to beauty or richness. The atican at Rome is merely a huge irregular pile; Versailles and the Escurial, notwithstanding the millions they cost, are both monuments of bad taste. Though far from beautiful, the royal palace at Madrid, begun in 1737, from the designs of Giambattista Sachetti, an Italian architect, is a stately and regular pile, it being 470 feet square and 100 feet in height; but the effect such a mass would otherwise produce is greatly impaired by the number of mezzanines. The same remark applies to the palace erected by the King of Naples at Caserta, and of which Vanvitelli was the architect. This building is characterised by magnitude, for it extends 731 feet from east to west and 569 from north to south; yet of either grandeur of conception or majesty of style there is very little, certainly not enough to reconcile us to the prodigal execution of so very indifferent a design. The royal palace at Stockholm is a stately edifice in the Italian style, although the original design, by Count Tessin, was considerably curtailed. The original Imperial Winter Palace at St. Petersburg was a vast pile erected by the Italian architect Rastrelli in the reign of the Empress Elizabeth, of most imposing aspect towards the quay of the Neva, but heavy and grotesque as to style. This structure, or at least the chief portion, was destroyed by fire in the beginning of 1838, but has been rebuilt. Enormous as have been the sums expended upon many of these edifices, every one of them falls short of the ideal of a royal palace, in which, if anywhere, not only all the luxury and pomp of architecture, but a certain colossal dignity of aspect should present itself. This can never be accomplished where storeys above storeys are allowed to display themselves externally. That is but a vulgar species of architectural grandeur which is produced by a numerical multiplication of little parts and features. All the rooms required for the accommodation of an extensive household should be turned towards inner courts, and the whole exterior, having only a single range of lofty windows above the ground floor, should be left for the unrestrained display of architecture and sculpture upon a noble scale without any intermixture of littlenesses. By such a disposition, too, convenience would perhaps be found far better consulted than at present, because while all the apartments for official and State receptions and court entertainments would be connected together, the whole of the vast number of subordinate rooms required in such a habitation would be concentrated within the general plan, and at the same time might be kept entirely apart by means of galleries between the outer and inner range, communicating at intervals with lesser vestibules and staircases attached to the suites of lesser rooms and private apartments of every description.

The Two Pæstum Temples.

According to Paoli the architecture of the Pæstum temples is to be considered rather as Etruscan than Grecian. Whatever may be the country of the architects, there is no disputing that the buildings themselves essentially belong to the Doric style, their distinct character in that respect rendering their peculiarities all the more striking. We find here precisely the same features and members, only with a difference, and, moreover, precisely the same disposition. In fact, it is only for the differences of the kind alluded to that these temples are at all remarkable, since in their plans and all other particulars they present nothing more than what is common to nearly all Greek temples, namely, a cella surrounded by external colonnades or peripteral. Both those at Pæstum are peripteral and hexastyle, the only difference between them being that the larger one has fourteen columns on each of its sides (reckoning those at the angles), and the other only thirteen. The first (which is 195 feet long by 79 wide) is hypæthral, or open to the sky, that is, its cella forms an inner court, with a range of seven Doric columns on each side supporting an architrave, on which stands a second range of smaller columns of the same order, which arrangement produces a most uncouth effect. The floor of this cella is raised several feet higher than that of the external colonnades. The external columns are of extraordinary massiveness, being 7 feet in diameter at their base, though only 29 10 feet high; and as their upper diameter below the capital is not more than 4·9 feet, their shafts decrease very suddenly; one, though not the most unfortunate consequence of which is that, as compared with the necking of the column, the capital and abacus spread out exceedingly. Another singularity is that the architrave does not at all overhang the upper part of the columns, its soffit being of the same thickness as the top of their shafts beneath their capitals; whereas in nearly all examples of the Grecian Doric the face of the architrave is in a plane that would intersect the shaft of the column nearly at its base. In comparison with the height of the columns, the entablature is exceeding deep and ponderous, being equal to one-half of that of their shafts exclusive of the capital, which unusual massiveness of the upper part is in perfect accordance with that of the columns. The smaller temple, sometimes called that of Ceres, as the other is that of Neptune, measures 107 by 47 feet, and is hexastyle peripteral; though if so far perfectly similar to the one just described, it has one very remarkable singularity in its plan, which is that the pronaos is not formed by columns between antæ, and consequently enclosed at its sides, but has two columns and a half column on each side, which latter is attached, instead of an anta, to the end of the wall of the cella. These columns are raised upon a socle one behind the other, and have small bases. As regards the external order, one very remarkable peculiarity in the detail of the columns is, that for the usual narrow channels and annulets forming the hypotrachelium, or necking beneath the capital, a very deep cavetto, or hollow, is substituted, which is carved. The ornament thus produced has been generally compared to leaves, and some have most fancifully suggested that we here find the first rudiments of foliage for the decoration of capitals; whereas, to say nothing of the utter dissimilarity between such ornament and foliage properly so termed, it consists of what look more like husks than any kind of leaves.

Translation of Building Terms.

Various nations have various articles of dress, various utensils, implements and ornaments which are peculiar to them, and consequently have not their equivalents in another language. If such terms are rendered by some other term in the language into which the translation is made, the translation will not convey the exact notion of the original, though it may come near enough for many purposes. In some cases the difference is immaterial, as may be shown by instances; in others the difference is material. The Latin words "domus" and "navis" may be respectively rendered by the English "house" and "ship," though Roman houses and ships differ considerably from English houses and ships. But if the word "domus" is merely used to signify the general notion of a dwelling for man, as, for example, when one wishes to say that a "man was killed in a house and not in the street," the precise difference between Roman houses and English is immaterial, for house in such case is used in its most general sense. But if in the original Latin passage anything turned on the difference between "domus" and "villa" as opposed to one another, then, unless the English language possessed two words which should stand in the same opposition to one another as "domus" and "villa," a translation could not be made simply by equivalent terms—it must be effected in some other way. Material objects then, for which there may be equivalents in two languages, when the object is used in its most general sense, may not have equivalents in the two languages when used in this special sense.

MANCHESTER SOCIETY OF ARCHITECTS.

An address was given by Professor Capper on the 11th inst. to the Manchester Society of Architects, in the course of which he spoke of the importance of the study of design in architecture. This, he said, was a first feature of the course of training at the Ecole des Beaux-Arts in Paris, and also in all the schools of architecture in the United States. While we might look upon English architecture of the past with pride and the consciousness of splendid achievement, we could not now afford to dispense with adequate and thorough training in design, and this training should be especially the work of our university schools of architecture, such as that which had been formed at the Manchester University. To power in design all great buildings owed in chiefest measure their fame, and design should form from the earliest moment the backbone of the student's course of study. Professor Capper showed how academic training provided the best road to success, because it was the best means by which the student obtained that grasp of subject and breadth of view which were essential for the attainment of the best results. A proper academic course, he said, was not calculated either to stifle genius or to create a dead level of mediocrity, lacking the freshness of untrained spontaneity. Afterwards Professor Capper spoke appreciatively of the value of training on the practical side, but he pointed out that an office training was inevitably of a fragmentary character.

GENERAL.

The Prince of Wales is giving sittings to Mr. G. E. Wade at the Avenue Studios, Fulham Road, for a statue which is to be erected at Hong Kong.

M. Charles Girault, architect of the Petit Palais, Paris, and M. Nénot, architect of the Sorbonne, have decided to compete in the Concours de Façades of private houses.

The Combination of Scotch steelmakers to maintain prices on a profitable basis was finally ratified at a private meeting of Scotch makers in Glasgow on Tuesday. All the makers signed the agreement and paid over heavy sums as a penalty against any breaking through the fixed basis of selling prices. It was also agreed to further raise steel ship plates and angles 2*s* 6*d*. per ton, steel boiler plates 5*s*, and malleable iron bars 2*s*. 6*d*. per ton, in sympathy with the recent action of the North of England makers.

The Restoration of St. Sebald's Church, Nuremberg,
have to be suspended, owing to a deficiency of subscription

The Committee of the Eton Memorial, as a first
towards obtaining a design for the proposed memorial build
invite Old Etonians who are architects to prepare plans.
hon. secretary at Eton will supply all information

The Royal Society of Painters in Water-Colours ele
last week the following Associates:—John S. Sargent, R
Henry Scott Tuke, A R A., F. Cadogan Cowper and D
Cameron. Sir Harry Hamilton Johnston was elected
honorary member of the Society.

A New sailors' home is to be erected at Weymout
meet the needs of the Home Fleet and other vessels ancho
at Portland. The difficulty as to a site has been overcom
the action of Sir F. Johnstone, the principal ground landlo
Weymouth. A convenient site in the centre of the town
been suggested. No definite decision will be made until
Commander-in-Chief of the Home Fleet has been consulte

Mr. Daniel Watney, past president of the Surve
Institution, has ordered the North-Western Railway Com
to pay the Colwyn Bay Estate Company 13,870*l* for l
compulsorily taken at Colwyn Bay for railway widening
poses This sum is below the amount offered by the rai
company before the arbitration. The claimants will hav
bear their own costs.

A Memorial Statue of Queen Victoria has been unv
in Queen's Park, Cawnpore. The statue, cast in bronze, i
work of Mr. Thomas Brock, R A. It is 12 feet high and st
on a granite pedestal rising 18 feet from the ground and c
ing four bas-reliefs representing the Empire, Education, Sci
and Art, and Commerce

Mr. G. C. Vernon-Inkpen has tendered his resignati
a seat on the Portsmouth Town Council in order tha
might be appointed architect for a proposed new school u
the education committee.

Messrs. Dorman, Long & Co., Ltd, of Middlesbro
have secured the contract for the supply of the finished s
work and other material required in connection with the exte
of the Croydon electrical power station.

M. Holleau has been appointed as director of the Fr
school in Athens in the place of M Homolle M Holleau
one of the most accomplished students of the school whic
is about to direct. He is a professor at Lyons

It has been officially stated that a portion of the la
Rosyth, the new naval base, will probably be utilised fo
erection of dwellings for officers and work-people
Admiralty do not intend to erect such dwellings themse
but will take care that the buildings are on hygienic
ciples.

The Twenty-third Annual Meeting of the membe
the Sanitary Assurance Association was held on the 15th
at the offices, 5 Argyll Place, W., Mr. A. Stirling, president, i
chair. The Council expresses regret in the report that
principle of the Sanitary Registration Bill, promoted b
Association, has not yet received the sanction of Parlia
The income of the year was 202*l*. 15*s*. 7*d*., which, after m
all liabilities, left a balance in hand. The report was ado

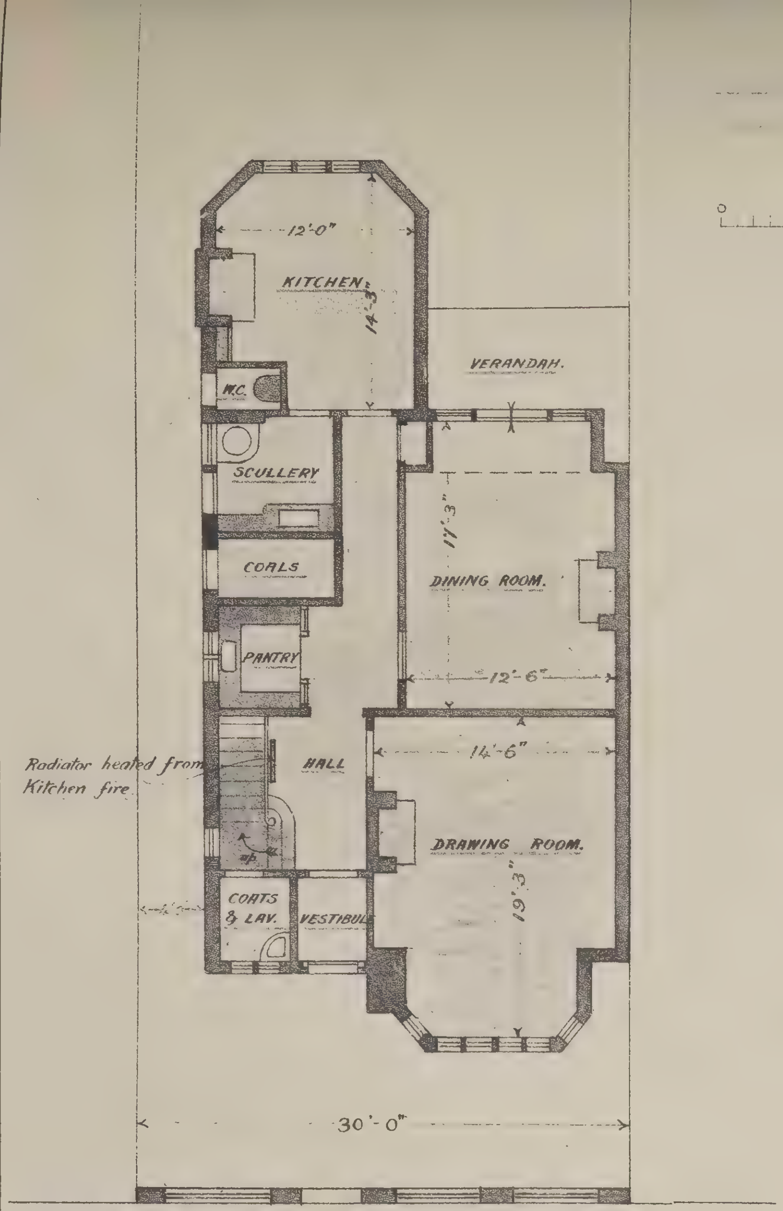
The Supplementary Estimates of the requiremen
the Civil Services for the year ending in March 19 4 have
issued. For expenditure in respect of royal palaces an
tional sum of 7,300*l*. is now required. An excess expend
of about 9,900*l*. over the amount, 10,500*l*, originally vot
respect of Osborne is required, mainly for the purpo
carrying out the alterations recommended by the adv
committee, which was appointed after the preparation o
original estimate for the adaptation of part of the buildi
the purpose of a convalescent home for officers; but to
meeting this excess there will be available out of saving
the remainder of the provision for Osborne about 2,
owing to the buildings not having been ready for the rece
of convalescents so soon as was anticipated For imp
ments in the Mall, St James's Park, including drainage,
paving, planting trees, construction of ride and new footp
lighting and other works an additional sum of 18,8
required.

Mr. A. Morley Clarke, civil engineer and archite
Cleveland Buildings, Manchester, has taken Mr.
Pendleton into partnership from February 1. In f
practice the firm will be styled Morley Clarke & Pendleto

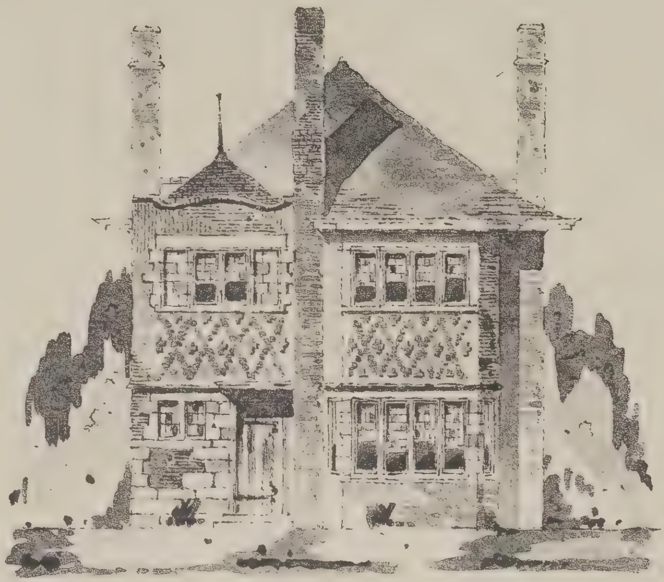
The Beni Hasan Excavations Committee offer
number of museums in the United Kingdom and the Col
a set of ancient Egyptian pottery, typical work of the ele
dynasty dating about 2,300 B C. The gifts will be allotte
the public museums firstly, by which is understood mus
of towns or institutions which are open free of charge t
public Educational institutions accessible to limited nu
are not debarred, but no grant can be made under any cir
stances to private individuals.

House at Croydon.

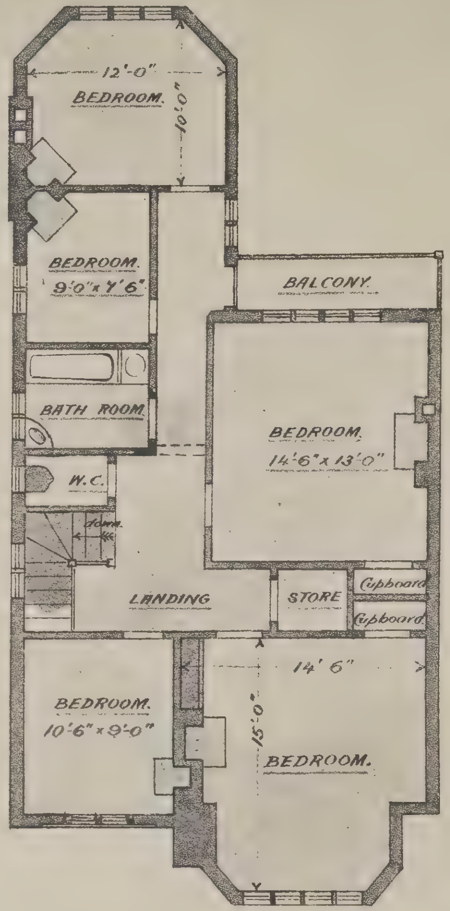
W.G. WILSON, A.R.I.B.A.
ARCHITECT.



GROUND FLOOR PLAN.



FRONT ELEVATION

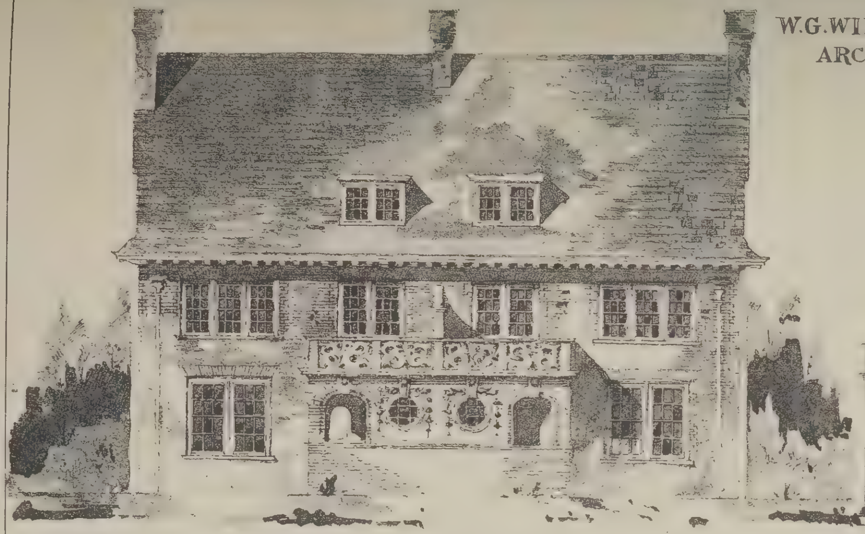


FIRST FLOOR PLAN.

INK PHOTO. SPRAGUE & Co. LTD. 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

PAIR OF HOUSES AT EALING.

W. G. WILSON, A·R·I·B·A·
ARCHITECT.



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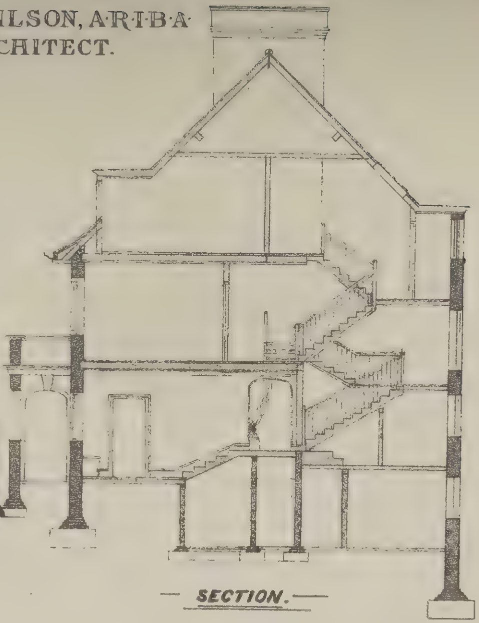

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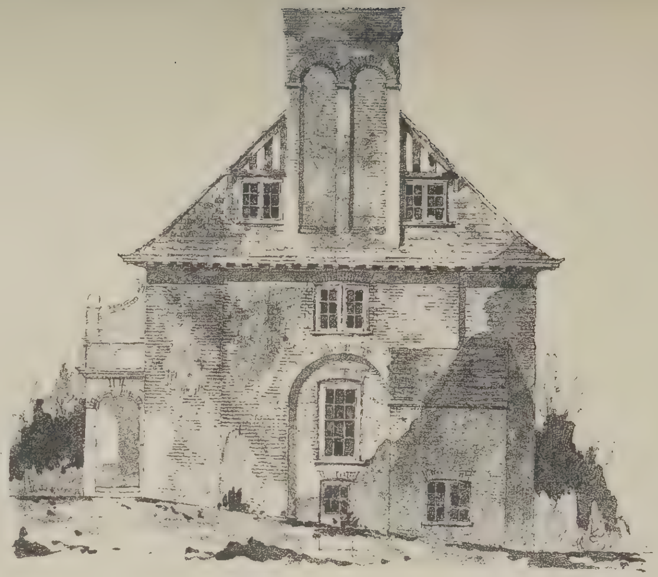

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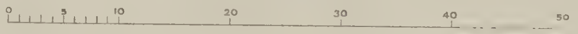
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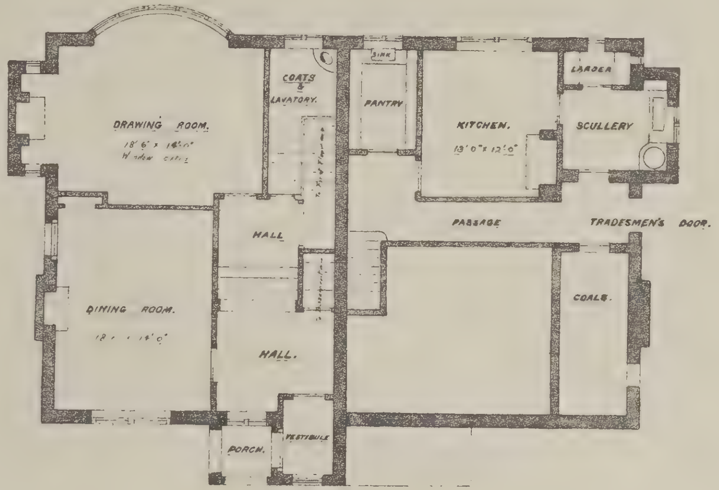
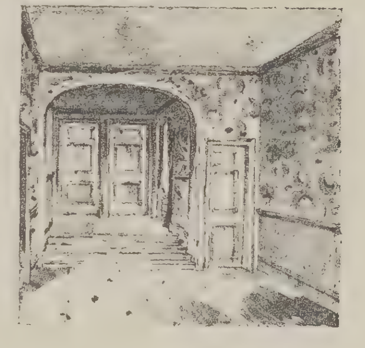
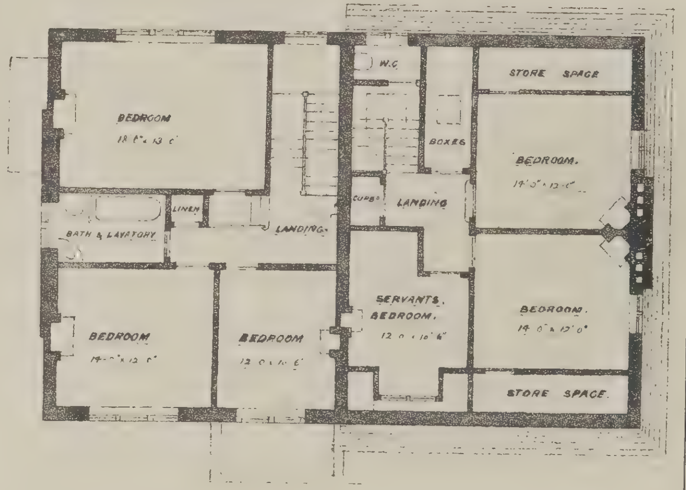


— GROUND PLAN — — BASEMENT PLAN. —



— INTERIOR OF HALL —



— FIRST FLOOR PLAN. — — SECOND FLOOR PLAN. —

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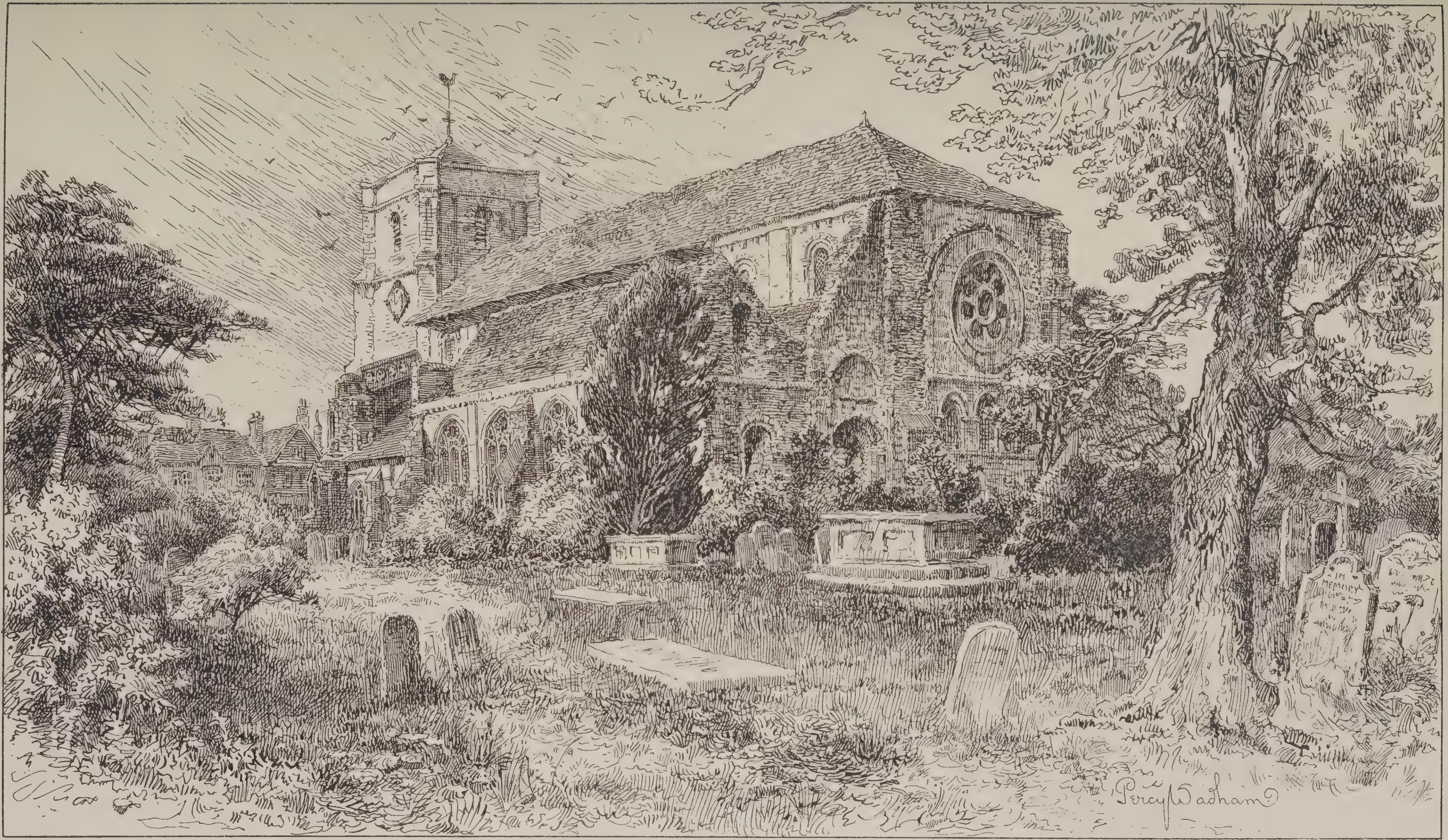

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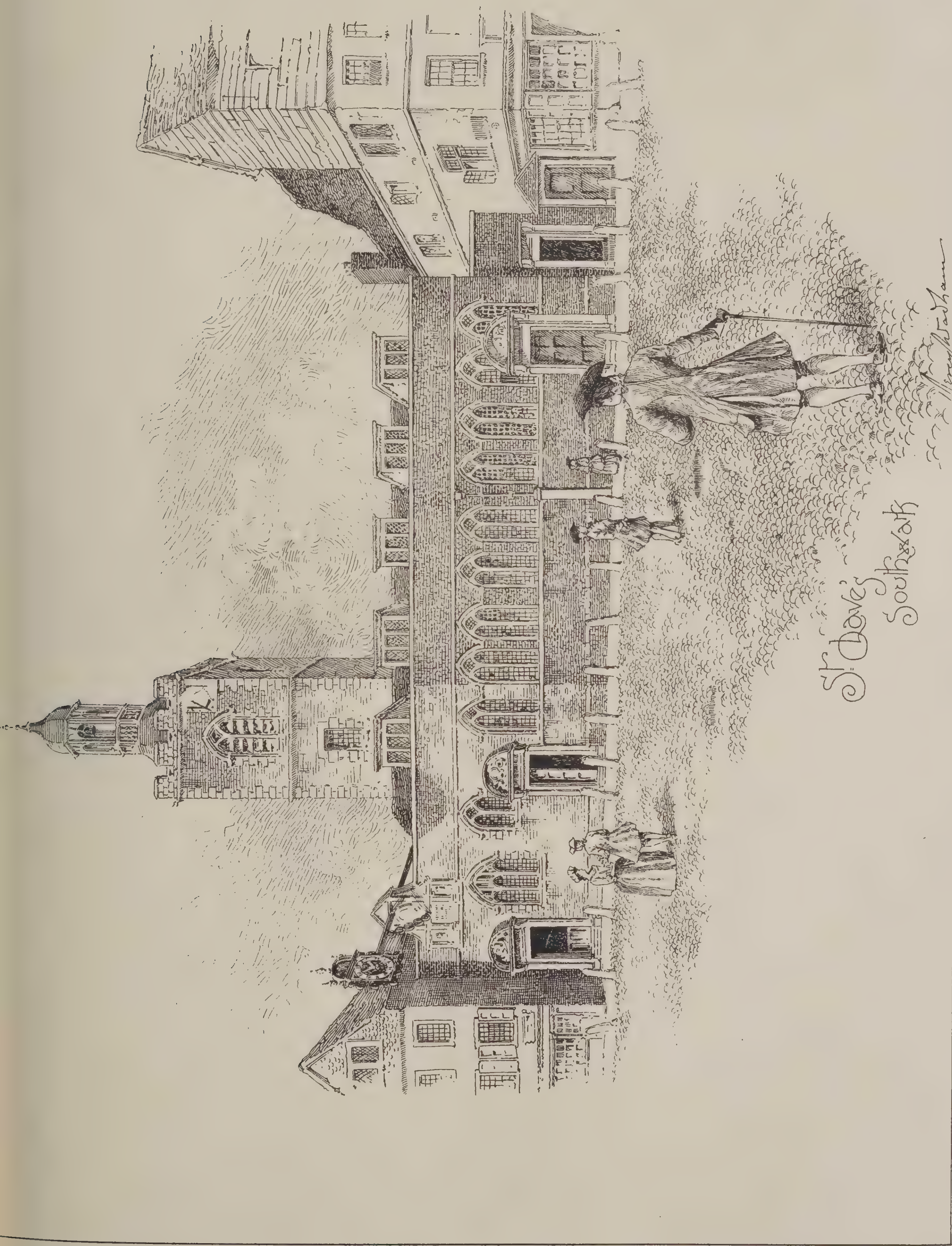

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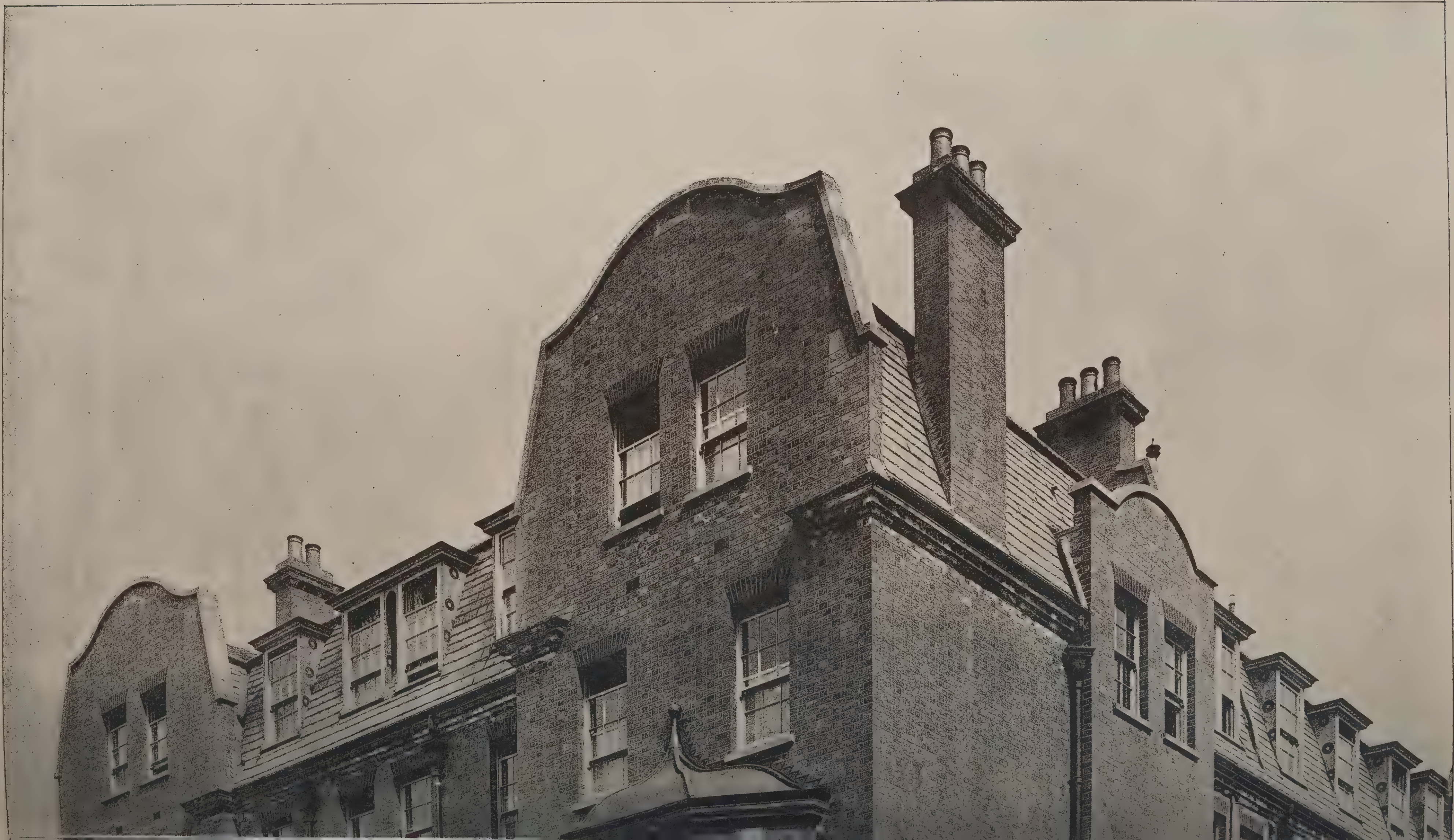

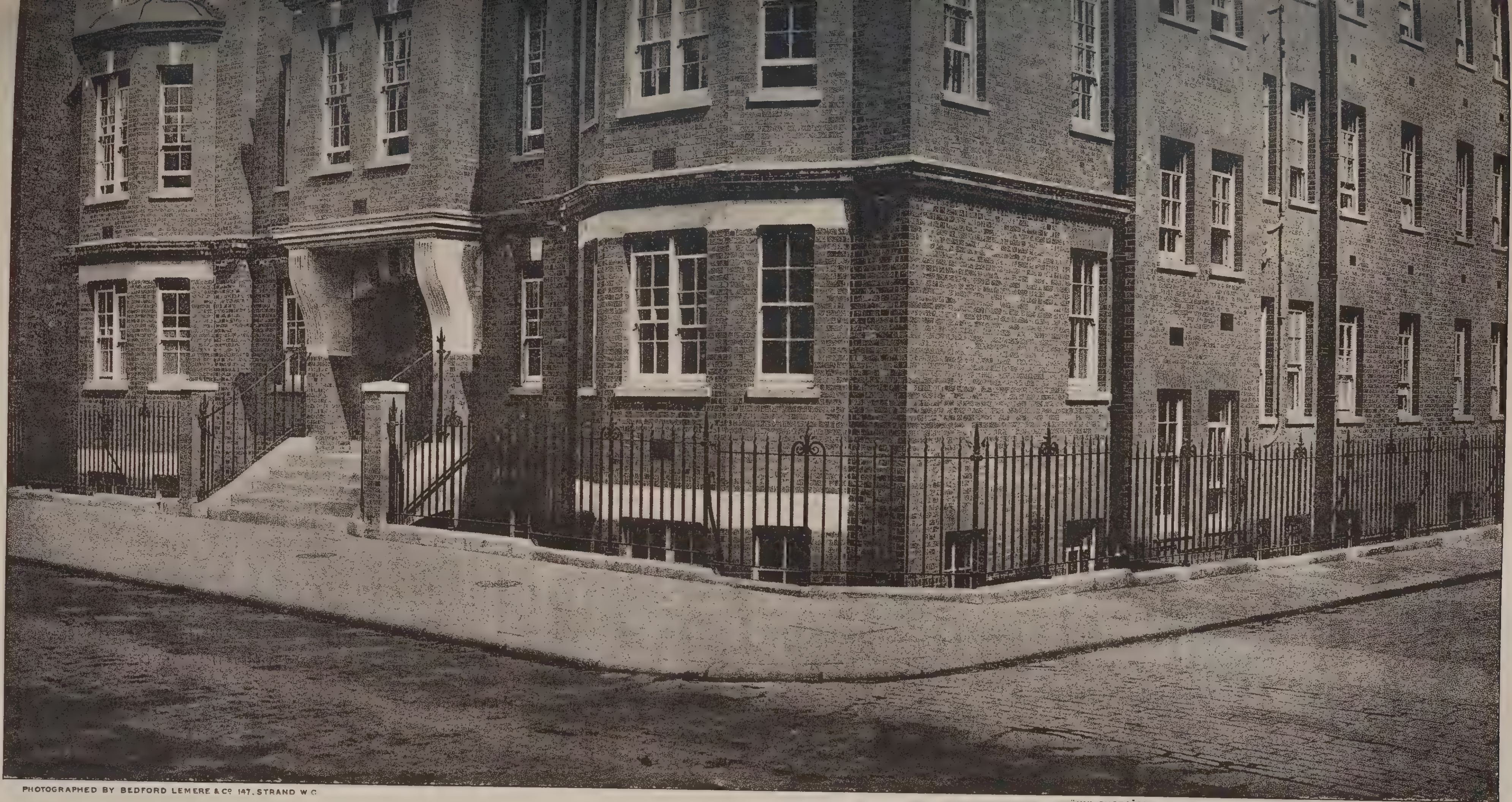

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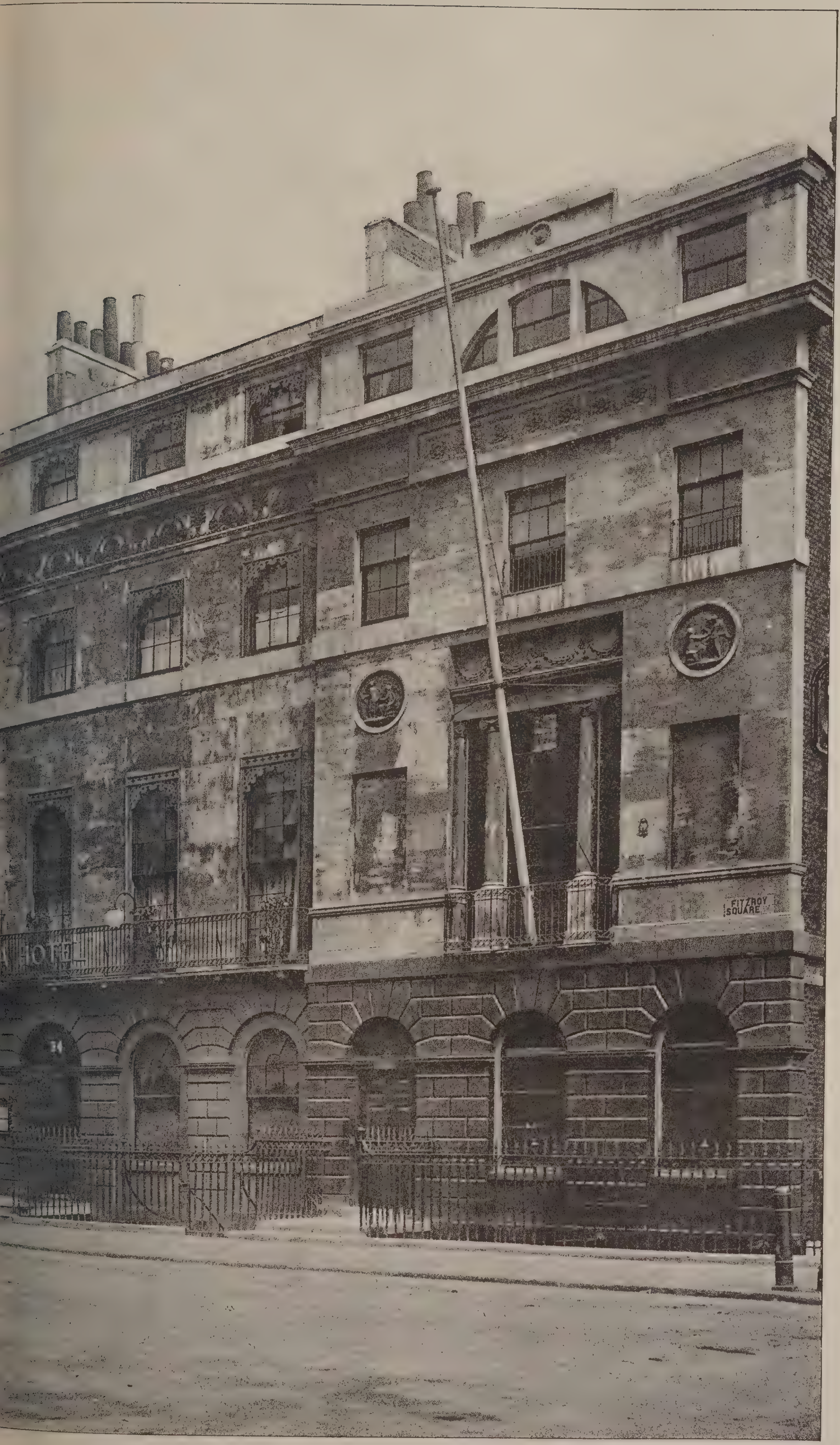
LADY BRABAZON'S HOME FOR GENTLEWOMEN.

R. S. AYLING, Architect.

FI

ROE



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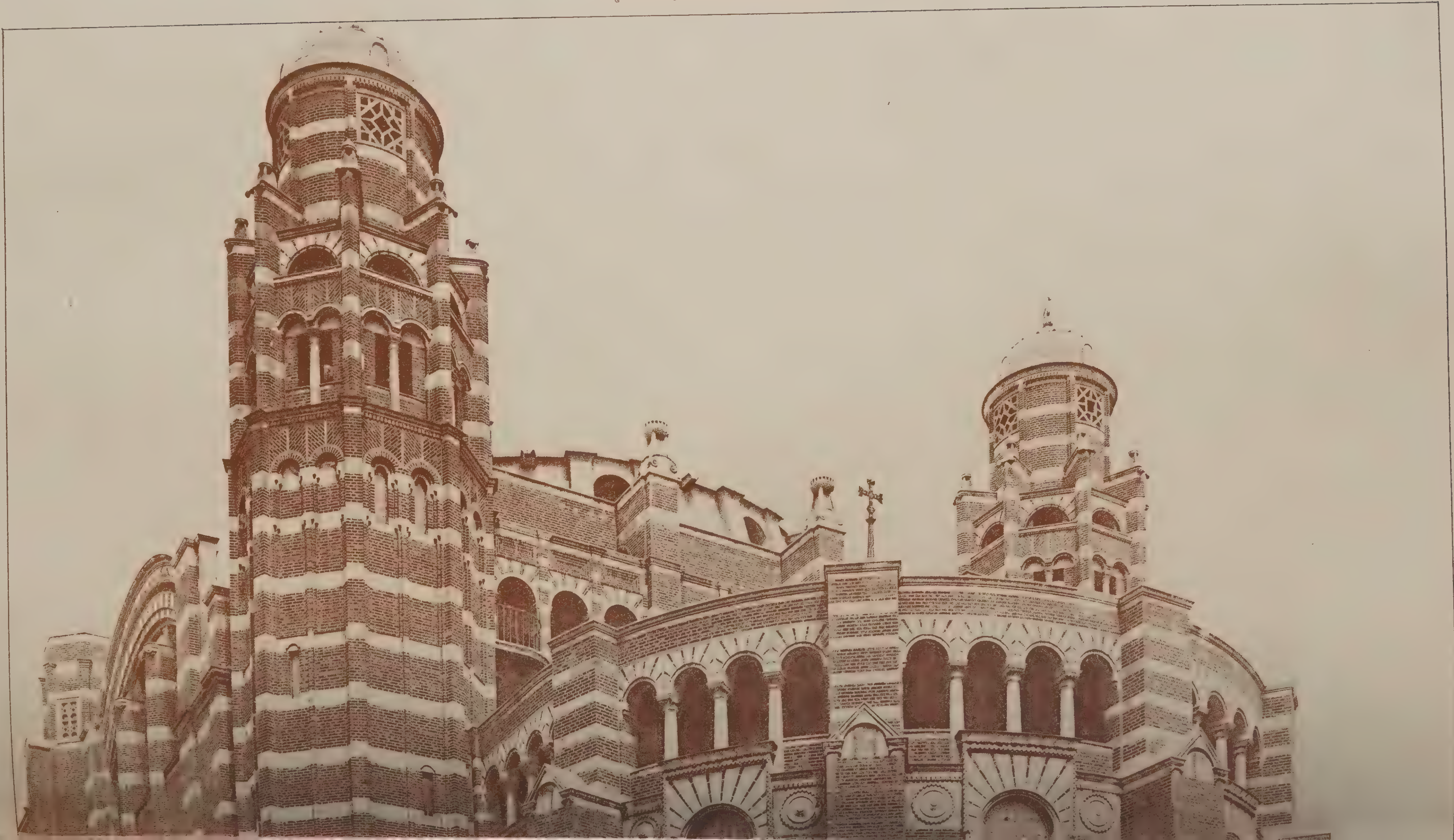

The Architect.

THE WEEK.

It would be difficult to find a subject which will give rise to greater differences of opinion than the Weights and Measures Act which was brought under the notice of the House of Lords on Tuesday. The Bill was read and referred to a Select Committee. As long as Great Britain was allowed to stand apart in business no serious inconvenience was caused by the use of the system of weights and measures that is peculiar to this country. But since it has become necessary to compete with other nations under like conditions, it is beyond all doubt that a change is indispensable. Theorists may hold that the adoption of the metrical system is no difficult task, and indeed, as long as operations are confined to paper, that may be the case. But in manufactures the change must mean the loss of large sums of money. The Select Committee of 1895 recommended (1) that the metrical system be at once legalised for all purposes; (2) after a lapse of two years it should be made compulsory by Act of Parliament; (3) that the system be taught in all public elementary schools. The failure to establish the metric system in schools need not be taken as indicating a similar failure in applying the system to business. Lord Kelvin, whose authority must be respected, states that the difficulty which might arise in shops, factories and engineering establishments would in a month be more than compensated by the diminution of labour which the change would produce. Although the system is so closely associated with the French, it can be claimed to possess an English origin. In a letter, dated November 14, 1783, James Watt laid down a plan which was in all respects the system adopted by the French philosophers seven years later, which they suggested to the King of England as a system that might be adopted by international agreement. James Watt's objects were to secure uniformity and to establish a mode of division which should be convenient as long as decimal arithmetic lasted. He curiously anticipated Herbert Spencer's objection to the metric system, which was that it ought to be duodecimal. If we had six fingers on each hand, then duodecimal subdivision might be convenient. Decimal arithmetic was a thing which was absolutely settled, and there should be no complicated subdivisions whatever. It may be hard to give up a venerable system, but there can be no obstacle to business, and it now seems to be impossible to compete in the markets of the world unless we adopt the nearest approach to a universal system.

A few years ago the highway known as the Green Lanes in Stoke Newington was an object-lesson demonstrating one of the weaknesses of parochial government. By reason of the careless manner in which a coloured line had been laid down by a brush on the parish maps, it was impossible to determine who was responsible for keeping the road clean. Common sense would suppose that the centre of the road was the boundary. But one authority claimed that, owing to the position, the whole of the roadway was within one parish, which should be responsible for its condition. It is needless to mention that argument was not approved by those who would be called upon to bear the expense. Litigation followed, with the uncertain results customary whenever judges have to deal with plans. The creation of borough councils removed the anomaly, but not the litigation which the Green Lanes can inspire. All Londoners know that the filter beds of the New River Company are on both sides of the Green Lanes. When it was decided to pave both sides a claim was made on the New River Company for the cost, amounting to 711*l.* 13*s.* 9*d.*; but the magistrate held that his jurisdiction was limited to one side, and made an order for 318*l.* 6*s.* 9*d.* It is now admitted that both sides of the roadway are controlled by the Borough Council. But the company still decline to pay, on the ground that the powers of the local authority were exhausted when they took over the thoroughfare as a new street. That view was adopted by Mr. Fordham on Monday, and he dismissed the summons and ordered the Borough Council to pay five guineas costs. The Council declare they have other arrows in their quiver, and that sooner or later the New River Company will be compelled to pay. But superstitious people would be justified in declaring that as long as the Green Lanes exist as a roadway it will give rise to litigation.

Borough surveyors are too prone to accept private commissions which should belong to architects. But no architect would wish to see them libelled. We have several times pointed out how readily opportunities can be found by members of local boards for suggesting that surveyors possess other irregular means of enriching themselves besides drawing plans of shops and houses after office hours. Officials of the kind can hardly discharge their duties zealously without occasionally coming in contact with some of the local authorities, and it is easy to hint that a surveyor shows more consideration for a contractor than for one of his "masters," and that the reason is not far to seek. There was lately in London an official who made contractors yield large sums for his benefit, and he is now repenting in a convict's garb. But the circumstances were exceptional, and the temptations were different from those arising in a borough surveyor's office. A case concerning the slander of a surveyor was heard this week at the Kent Assizes. The action was brought by Mr. Charles Vawser. The defendant, it was alleged, had said when a contract was under discussion, "I suppose there is 25 per cent. behind this;" and on another occasion, "I can understand the surveyor trying to help his friend, but to certify such an amount is sheer robbery of the Council." The defence was that the remarks were mere jocular expressions. But the judge and jury were of a different opinion, and Mr. Vawser was awarded 150*l.* damages.

It was supposed that the Hôtel de la Paivä in the Champs-Elysées was to be used as the *mairie* of the arrondissement. It is difficult to know what could be done with a mansion that was so obtrusively glaring in its decorations. The adventurers who owned it expended enormous sums on decoration, and the commissions were distributed among able painters and sculptors. But they all seemed to be inspired by the *genus loci*, and none of them would have cared to have their wall paintings or figures referred to as examples of style. Recently it was supposed to have been taken for the purposes of an international club, a kind of institution for which the mansion and its adornment would be likely to serve. A few days ago a large notice-board was set up bearing this inscription:—"Premises of the Travellers' Club." From this it may be assumed that some English syndicate has acquired the property. The position is one of the most desirable in Paris, and the building is grandiose. But those who know Paris best will not be altogether satisfied to have a mansion with such a history identified with Englishmen.

In most engineering offices no objects are more familiar than copies of plans or sections which are cut into strips and mounted on canvas, in order to be carried in the pocket. The form is so convenient that manuscript table-books are sometimes arranged in the same way. Messrs. A. Constable & Co., Ltd, are, however, we imagine, the first publishers to show the courage of printing a book of tables on such a principle. Mr. R. H. Smith has prepared "Tables of multiplication, division and proportion for the ready calculation of quantities and costs, estimates, invoice prices, interests and discounts, weights and strengths, wages and wage premiums." Generally speaking the figures are more easily referred to than if in book form. From the explanations given by Mr. Smith it will be possible to work out a variety of calculations quickly and accurately. The publication suggests the possibility of producing many other aids to office routine in a similar manner.

THE NATIONAL GALLERY.

IF foreign critics of England and its ways were occasionally to compare their own statements or those of their predecessors with the present condition of the country it would be a salutary exercise for them. The older censors seemed to be of opinion that England was an immovable country. With other peoples there was progress, but none with us. This is more especially seen in the judgments which were given about the condition of the arts in England. Undoubtedly, whilst there were many English amateurs who admired works of art as sincerely as any foreign gentlemen, England as a State was indifferent. Observing how little was done by the Government, a stranger would perhaps be justified in drawing the conclusion that authority was idle because it could not undertake the responsibility of compelling ordinary citizens to act in defiance of their wishes. Attempts were therefore made to explain the neglect of art, and those who assumed to be philosophers were able to propound a theory that the great cause was the terrible climate, which rendered the people not only dull but splenetic, and incapable of discovering any pleasure in such simple things as pictures or statues. It cannot be alleged that foreigners now judge the English people on such weak grounds, but there is a good deal in what they still say which appears to arise from a belief that any success in art attained by us is really due to accidental causes. It is, therefore, declared to be of a temporary nature. In that way they explain the great variety observable in English art, and which is put down to an incapacity to establish principles or to act upon them. The whim of the moment is thought to be the controlling power. Some critics offer the explanation that any success gained in England is due to the influence of French work. It must be allowed, however, that there are exceptions; for unbiassed critics, in France especially, are not indisposed to vaunt the merits of English art beyond their own. One of the earliest of that sort was Bürger, or Thoré, and as his judgment was accepted by a great many it doubtlessly modified foreign opinion. A contemporary of Bürger was Louis Viardot, and he might be taken as a type of one class of men who are desirous to rise above their prejudices but find it difficult to make the attempt.

He was in England when the National Gallery had been only just set up, and its collection of less than sixty examples of painting and drawing were to be found in rooms on different floors of a small house in Pall Mall. To him it appeared extraordinary that a people who could exercise so much influence against France, and who used foreign peoples as instruments, was without the smallest public collection of works of art. This was the more remarkable because the private collections were invaluable to cognoscenti. It was not until nine years after the battle of Waterloo that the Government voted 57,000*l.* for the purchase of thirty-eight pictures out of the Angerstein collection, as well as 3,000*l.* for expenses. The national pictures continued to be exhibited in Mr. Angerstein's house. To them were added examples presented by Sir George Beaumont, the Rev. W. H. Carr, and others.

Viardot admitted his disappointment when on seeing the kind of building into which the pictures were removed. The site, he calculated, could have enabled the Government to erect a gallery that would be as large as those of Florence, Naples or Madrid, or about two-thirds the area of the Louvre. Believing that the English were more skilful in planning than in designing the exteriors of buildings, he was surprised to find only three square salons differing in size, with some small cabinets adjoining them. The new gallery, in his opinion, showed an utter want of foresight because there was no provision for growth. Another gallery, he considered, would be inevitable, and then an opportunity would be afforded of honouring modern architecture as well as ancient art. The pictures were not systematically arranged, schools were unrecognised, and it was difficult to obtain information concerning any work.

It is needless to mention that he professed to be surprised with the limitation of the treasures. He failed to recognise that desirable works are not always in the market and some excuse existed if the gallery could not display a work of the Byzantine school, or one by Giotto or one by Masaccio. The earliest pictures were a few examples of the Ferrarese school: a *Holy Family* and a *St. Fran* by Mazzolino, with the *Vision of St. Augustine* and *Holy Family* by Garofalo. Viardot asserted it w with Leonardo da Vinci the series of Florentine maste commenced in London. The *Christ Disputing with t Doctors* recalled in all its details to him the style and mann of the author of *The Last Supper.* It was not howev one of the artist's best works. The subject was confuse obscure, badly arranged. Christ was too old and t richly clad. If Viardot were to again visit the gallery would find the picture ascribed to Luini, who was I Vinci's follower, and that its shortcomings are recognise About Michel Angelo's small *Dream of Human Li* Viardot considered it was one of the designs prepared the master when contemplating the subject of the *La Judgment*, but the colouring was by another hand is now generally believed that the picture was painted fro Michel Angelo's designs by one of his scholars. H affirmed it was an error to ascribe a portrait of a lady th known as "the wife of Bronzino" to Cristoforo Allo He believed it was by the first Bronzino. All Fren critics are admirers of Andrea del Sarto, and Viard considered he was the greatest colourist of the Florenti school. He admits, however, that the *Holy Fami* exemplifies his defects of exaggeration in modelling a expression.

A Frenchman in comparing an English public collecti with those of his own country should remember th although England was so often at war, it possesses no spo of victory in the shape of pictures or statues. Viard was amazed to find that so large a sum as 11,000 guine was paid to the Marquis of Londonderry for Correggio *Ecce Homo* and the *Education of Cupid.* Both, he sai came from Murat's collection. But how did Mura obtain them? The latter picture was purchased by o Charles I. as part of the Duke of Mantua's collectio It was acquired by the Duke of Alva after the kin death, and remained in the possession of the family until t French occupied Madrid, when it was seized by Mura The *Ecce Homo* was bought by Murat. Lord Londo derry obtained the two from the ex-Queen of Naples, a sold them to the National Gallery. Viardot could n accept the *Ecce Homo* as the work of Correggio. T arrangement, he considers, is incomprehensible, for painter could complete figures so crowded together. B the *Education of Cupid*, which is now known as *Mercu instructing Cupid in the Presence of Venus*, he declared w delightful on account of its grace and expression. T small *Holy Family* he placed on the same footing as one the Tribune of Florence, and in the first rank amon works of its class. The National Gallery could only bo then of the portrait of Julius II. and the *St. Catherine* the works of Raphael.

The Venetian school was scantily represented. those days it was supposed a sketch of the murder of Peter Martyr was from the hand of Giorgione, but it no longer accepted as his work. The *Consecration of Nicholas* and the *Rape of Europa* were not accepted Viardot as more than copies. He tells us that Philip of Spain served as a model for the hunter in the *Venus a Adonis* of Titian. But it is a repetition of a work at Madri The great *Bacchus and Ariadne* has also its prototype in t same city. The *Resurrection of Lazarus* by Sebastian d Piombo was marked as No. 1 in the Angerstein collecti and the number was retained in the National Galle Viardot was restrained in his admiration of the wo The trustees had just paid 3,500 guineas for two pictu by Francia. The price was, he said, putting t Bolognese artists on a level with the Venetians.

The only painting ascribed to Velasquez to be seen the gallery in 1841 was a representation of the Duke Tuscany and his wife. "I hope the name was left on t frame," says Viardot, "through oversight rather than ignorance, for the figures must have been executed by so inferior Flemish painter, and to attribute such a producti to Velasquez was a calumny." *The Holy Family* Murillo cost 5,000 guineas; the price of the *St. Jo* was 2,000 guineas. Viardot was an admirer of Murill and he was pleased to observe the estimation in which t painter was held in England. But he could not discover w there should exist a prejudice against Ribera, for no ork by him was included in the collection, although he as unsurpassed in energy, power and solidity.

It seemed strange to Viardot that Claude and icolas Poussin should be so well represented. The ght paintings by Poussin now in the gallery were then its roperty. Only one landscape by Claude has been added o the collection since 1841. Indeed, Viardot considered at the English carried their admiration for Claude to dolatry. For a time there has been a decline in the stimation of the landscapist, but no one would be surrised to find that Claude once more advanced to his old osition. Rubens was also a favourite at the moment, nd the critic compares him to a great writer who can ever entirely suppress his genius, and who occasionally troduces sublime pages in a defective work too quickly onceived and too quickly executed. Among the examples y Vandyke he prefers the portrait then supposed to epresent Gevartius, but which is now described as Cornelius van der Geest." Rembrandt was another of e masters who had captivated the English at the time. iardot bestowed much praise on the portrait of Milton y Van der Plaas, which is not always to be seen in the ollection.

Among the English painters Hogarth was preferred y Viardot. Reynolds's portraits he was able to join in dmiring, but his historic compositions were subjects for erision. Gainsborough as a landscapist he reckoned uperior to Richard Wilson. It appeared to him astonishng that in a country which was successful in water-colour rt no example was to be seen in the National Gallery.

Viardot arrived at a period when few pictures were urchased for the collection. A year or two afterwards iere was greater energy shown, and in 1854 began an era hich lasted for about thirty years, in which almost every ear the country was enriched with masterpieces. It is not o be supposed that the remarks of foreign critics could ave exercised much influence on the trustees or the irector, but it often happens that such remarks indirectly ead to efforts to fill up vacancies. A Frenchman who ould now go over the collection with Viardot's description n his hand would be astonished at the vast increase accomlished in about sixty years. There are at least ten times s many paintings in the gallery as there were in 1841. he country likewise possesses a gallery of modern English rt; nor have water-colour drawings been neglected. We re so apt to undervalue our collections, ordinary people il to realise the difficulties which have attended the cquirement of so many works of art. Our foreign critics ierefore serve as records of the level attainable at one me, and which it is easy to see has since been surpassed egardless of cost.

AN INSURANCE OFFICE.*

REVIEWERS are not supposed to have any concern for the fate of a book. Their duty is to express an pinion on its merits and leave the rest to the public. It ometimes happens that doubts arise concerning the class f readers to whom a book is addressed, and it is thereore difficult to determine to whose use it is adapted. The arge folio on the new Royal Insurance building in Liverool is a case in point. The editor describes the subject f it as "the most important example of commercial ariecture ever erected in the city of Liverpool." It would be ntitled to admiration for its merits in any city. But we annot imagine an architect paying a guinea for a series of llustrations in order to discover what defects he can make ut in so fortunate a structure. Admiration for a block of ffices, or indeed for any building, by a contemporary is so arely attained, it is not to be supposed that money will be xpended for the sake of the exercise. The British public o slightly esteem architecture, we cannot believe that their atronage was calculated on when the arrangements were nder consideration for producing the monograph in so ostly a style.

We are consequently driven to the conclusion that the ompany, of whose wise liberality the structure will be a memorial, have supplemented their work by bringing out a description which would be worthy of the enterprise. In doing so they would be acting consistently with their past history. The company, we are told, began their career in Liverpool in a portion of the first floor of No. 1 Old Hall Street, in June, 1845. The date is noteworthy, for it was barely a year after Dickens had amused the public concerning the promotion of the Anglo-Bengalee Disinterested Loan and Life Assurance Company That wonderful body established itself in "the upper part of a spacious house, resplendent in stucco and plate-glass, with blinds in all the windows, and Anglo-Bengalee worked into the pattern of every one of them." The Royal Insurance Company were not long disposed to be satisfied with a portion of the first floor. Within a year larger offices were necessary, and in 1849 a new building was erected which was at first partly and afterwards entirely occupied by the company. In the early advertisements care was taken to illustrate the various local habitations that had been acquired. In that way any prejudice which might be excited by Dickens's words was removed. There is no "asset" more impressive in the eyes of the general body of insurers than an important building or buildings. Offices which stand on a company's site are eloquent of substantiality, and we are surprised that directors do not endeavour to make all classes of their supporters realise the prestige imparted by costly buildings. The roof of the new Liverpool building when seen above its neighbours is suggestive of the number of offices needed, owing to the extent of the company's business. The whole building becomes a most effective advertisement through illustrations of it, and it is reasonable to conclude that the volume descriptive of the new offices is also intended to be a record not only of "the genius of the architect and the skill of those who have executed the work," but also of "the enterprise of the company." The original proposal of the company was to extend their former premises southward; but having purchased some adjoining land it was determined to erect a new structure. Seven architects were asked to compete; and, acting on the advice of Mr. Norman Shaw, the design of Mr. J. F. Doyle was accepted, and the commission was given to him. The contractors, Messrs. Thornton & Sons, commenced their operations in 1897, and in June, 1903, the general meeting of the company was held in the new buildings.

The site is an irregular parallelogram of 215 feet by 55 feet. It has four frontages, and it is needless to say every inch of so valuable a position was utilised. The main entrance is in North John Street. The building is 110 feet from the pavement to the ridge of the roof, and 160 feet to the apex of the dome of the tower. Up to the sill of the first-floor windows grey granite, unpolished, is used. Above the granite the work is in Portland stone, and the roof is covered with Penrhyn green slates.

It was the desire of the directors that the general office on the ground floor should be one vast space unobstructed by walls or columns. After allowing for the entrance hall and offices for the manager, sub manager and secretary on one side, with a special entrance for tenants of the upper floors of the premises, there remains a clear area of about 140 feet by 50 feet. To admit of the arrangement it has been necessary to employ steel girders and stanchions. The building is hence an example of skeleton construction. The steelwork is so well tied together it takes all the important loads and consequent strains off the masonry, and it is stated that as a result "there is not the slightest crack or settlement throughout the building and nothing to show that it was erected in two parts at an interval of about three years." On the first floor is the foreign department, which is over 80 feet long, with board-room, directors'-room, &c., and the upper floors accommodate various departments. The materials introduced in the interior are as follows:—

> The walls of the various rooms, corridors and staircases are faced with substantial materials—marble of different kinds, wood panelling of Italian and American walnut, and large blocks of cream-coloured faïence. Plaster has been reserved mainly for the ceilings and domes; the material employed is a French plaster with stone finish, which can be easily washed in order to restore its original whiteness The whole of the building is well lighted, and the longest corridors are rendered bright and cheerful by the light-coloured faïence and plaster.

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* *The Royal Insurance Company's Building, North John Street nd Dale Street, Liverpool.* J. Francis Doyle, architect. Edited by . Newby Hetherington. (London: B. T. Batsford.)

All the nine floors are lighted by electricity and heated by hot water on the low-pressure system; in addition to this, there are open fireplaces in many of the more important rooms and offices. Great attention has been paid throughout the building to uniformity of design and harmony in detail; special drawings were prepared by the architect for the ornamental iron and bronzework, the walnut panelling and other decorative woodwork, the marble panelling and mouldings, the floors and the plasterwork of the ceilings; the furniture of some of the more important rooms was also designed by Mr Doyle, and executed under his supervision By these means a thoroughly harmonious effect has been attained.

The building no doubt contains nine storeys; but if the basements and the storeys above the cornice, by which the roof space is utilised, are deducted, it will be found there are only four storeys. From the arrangement the third and fourth storeys may be considered as only one in an architectural sense, and it may therefore be said there are only three important floors. There is consequently none of the monotony which exists in so many modern tall buildings, and the eye can realise the principal parts without fatigue. By the use of rusticated ashlar on the ground storey and similar dressings on the first and fourth storeys, light and shade are strongly marked over each façade. In the basement rock ashlar in large blocks is employed. The tower with its dome surmounted by a flame may be stated to crown the principal entrance. Coupled columns on high plinths divide the windows of the third and fourth storeys, and the window openings in the latter are flanked by rusticated columns. At first glance the variety in the building impresses the onlooker, but it will be perceived that the elements also preserve unity. The general effect is one of great strength which is suggestive of stability and endurance. The plates show that not only the façades as a whole, but subdivisions of them form interesting examples of composition. This is especially the case in the treatment of the two ends of the site.

In the hall are monolithic columns of Cippolina 17 feet 6 inches high, resting on gun-metal bases, and, we suppose, with bronze Ionic capitals. The walls are of Istrian marble, and verde-antique has been used for the plinth, the string of the staircase and the sills. The area of the general office is impressive. The ceiling is formed into large coffers in the spaces between the girders. Marble is liberally employed in the staircase, with balustrading and balconies of bronze. In the former the monogram "R.I." is introduced at regular intervals. The windows should be described as heraldic, for they illustrate, in addition to the arms of the Royal, those of other companies amalgamated with it. The hall and corridor on the first floor are lined with American walnut. The board-room is a fine apartment: the walls to a height of 19 feet are panelled in Italian walnut unpolished; the ceiling is vaulted, panelled and enriched in plaster; the chandeliers were made in 1647-49 for the town of Utrecht; the fireplace is one by Alfred Stevens. Altogether this room possesses the dignity of an ancient guildhall. The arrangement of the stanchions in the foreign department is not altogether satisfactory, but may have been dictated by engineering necessities. The corridors on the second and third floors are laid in Hopton wood and green marble, dull polished. The walls of the upper storeys are lined with cream coloured faïence, the upper parts being of plaster.

Sculpture is not neglected. Several panels in relief have been introduced; they were designed by Mr. C. J. Allen, with the aid of the architect, and were executed by Mr. Allen. The figures are treated with simplicity and breadth; the drapery falls in large masses. The series express the advantages of insurance, and are explanatory of the purpose of the building.

The collection of plates will enable a stranger to realise the treatment imparted to Renaissance architecture under favourable conditions. The position attained by the company after sixty years cannot be questioned, and the architect was justified in according dignity to the offices Not one of the Government departments in this country is provided with a building that is so impressive by its use of costly materials in forms that are adapted to display their qualities. The company should consider themselves indebted to Mr. J. Francis Doyle, who has so loyally served their interests by the creation of a building tha becomes a credential of the importance of the institution as well as an ornament to Liverpool.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last, Mr. H. T. Hare, president, in the chair.

The following were elected as members:—

Messrs. F. J. Whittingham, C. Simpson, T. O. Foster G. F. Lake, L. M. Gotch, H. V. German, I. H. German, D. J Campkin and T. L. Pearce.

Mr. W. H. White read a paper entitled—

Corner Houses.

Last session I had the pleasure of preparing and submitting to you a short paper upon "Town Houses," dealing principally with houses shut in between party walls, and tracing the development of the town house from the sixteenth century onwards. Incidentally it was mentioned that I had not dealt with corner or detached houses; this appears to have been sufficient for our committee to suggest the title of the present paper, which you may therefore consider somewhat as a seque to my former effort. Also permit me to treat the term "corner houses" with considerable latitude, and to include "detached" houses in order that I may exhibit views to bear out my remarks, and to provide subjects for what I hope we shall have at the end of the paper, viz. a good discussion.

First, therefore, for a few minutes let us consider the question of "corner houses." Is this not a fascinating subject for the exercise of a young architect's flights of fancy? What an opportunity to show to the world at large "all he knows," and yet what pitfalls to be avoided.

How many of our street corners have been made unattractive by the inartistic treatment of this problem, and, fortunately on the other hand, how attractive such corners are when treated in a masterly manner by a capable architect. To attain this skill is the aim of every earnest student present, and it has occurred to me that it might be interesting to all of us to see in a succession of views how some of our well-known architects have dealt with the problem. I therefore propose to show upon the screen a series of views of buildings which have been erected from the designs of architects, in most cases well known (at least by name) to all of you. There are also views o detached houses and of some corner buildings to illustrate a few points which I shall mention in passing.

Having described in my previous paper the leading points to be considered in planning a town house of the terrace type and bearing these points in mind, it will be found that a corne plot frequently increases the difficulty of planning a well arranged house—so many fresh elements are added to the ordinary problem, and there are possibly a greater number o solutions to be considered before the best is arrived at. But i greater difficulties are introduced the subject is more interesting and provides a wider scope for the architect's powers, and indeed the very awkwardness and difficulties of a site frequently enable the clever designer to produce a quaint and interesting piece of work. The disposition of the principal rooms, owing to questions of "aspect," may now become of vital importance and as in the built-in house the position of the entrance hall and staircase will materially help to settle the type of plan to be adopted

If the site is situated with one side to a principal stree and the other to an unimportant street the client will, in mos cases, expect the entrance to be in the principal street, and thi one point will often hamper the development of the whole plan Where the side street is wide and quiet, it is desirable in the case of a corner house attached to another house that the central hall and staircase type be adopted This permits of the rooms being planned to face the street, but it is impossible to lay down rules for the development of corner sites, each presenting a different problem to solve, and each requiring specia consideration

I strongly recommend our students to collect, examine and criticise as many published plans and designs as possible, a by so doing they will learn a great deal; and also, when possible, make a point of seeing the building illustrated, study its position in regard to its surroundings and the points of the compass; and, if it occurs to you after mature consideration that the problem might have been solved in a better manner jot down notes for future guidance. We thall see some plans &c., upon the screen which will illustrate these remarks.

As to the external features of the design of corner houses, little may be said as to the few points to be borne in mind whatever may be the style or motive we are working in, and the danger which appears to be most imminent is the unnecessary elaboration of the angle, which is frequently treated as a thing apart from the general design, and has a "stuck-on effect.

If it be determined to give prominence to the angle treatment, care should be taken to still keep it as an integral part of the design.

Now as to detached houses:—Except in some of our best thoroughfares and squares there are few opportunities of erecting detached houses in the heart of London, but where they occur the architect has even more play for his skill, and I shall show you views of various detached houses which will enable you to study what has been done by others, and help you to equip yourselves for dealing with similar problems when the pleasant opportunity arrives. I shall also show you a few suburban houses, but they scarcely come within the scope of my paper. The slides have been made from published illustrations and photographs specially prepared, and we may consider many of them as representing the work of some of the best known men of their day. In examining these works the chief point of interest to us appears to me to be to consider how very widely they differ in motive and style

Very little unity of design exists between them; each architect appears to have been actuated by a different motive as to the design, and although we must admit that individuality is charming, I cannot help wondering whether this struggle for novelty is good for English architecture—good for the training of public taste, however charming each individual piece may appear to us. When no two men in a profession seem to show any consecutive train of thought (as disclosed by their work) and produce such a variety of design, with no homogeneity of feeling existing between their work, how can we expect the public to learn to distinguish between good and bad? I cannot help feeling that so long as our students are allowed to work upon individual ideas, so long will this heterogeneous work continue, and while such differences of style and aim exist between the masters, our students cannot hope to develop a vernacular style.

Municipal architecture, it seems to me, has during the past few years, in the hands of our ablest men, made greater strides towards a development of a vernacular style than has house architecture. This may be, and probably is, the result of competition, where each competitor by striving for success studies more closely the work of the best men of the day; and that work, you will agree with me, is a distinct carrying on and development of the eighteenth-century work, but there is no such motive with house architecture, where each man is left to his own devices and his client's instructions, and the work illustrated to-night bears out these views.

Of course, I submit my own ideas with all deference, and it may be that these views will not be shared by many of you; but as we have all been taught that the study of old work is absolutely essential, and the more we do study it the more we realise how important a factor in our education it must be, I think we ought to be able to deduce some lessons from it. Briefly summed up, may we not say that the old work was more consistent as to style? It was a gradual development from one period to another right down to the end of the eighteenth century. It was always suited to the requirements of the age and the materials used, and possessed a breadth of treatment, from the cottage to the mansion, the village church to the noblest cathedral, far and away beyond that of the average work of to-day.

Speaking as a student to students, I ask, Do we show these same qualities to-day in the majority of our work, and, if not, what is the reason? Is it lack of the knowledge possessed by the older architects, or is it that the requirements of the nineteenth and twentieth centuries are so much more complex that the old rules fail; or is it that, in the multitude of individual teaching, of books, of illustrations, of facilities for travelling, of the innumerable rules and regulations laid down by the many authorities who now have a voice in connection with our work, and of the lack of a genuine School of Architecture in England, that we are weakened in our efforts and our architecture lacks homogeneity of feeling, and that in consequence our streets show the architectural patchwork now presented to our view?

I do not wish to be misunderstood as to my object in bringing forward this variety of work for your inspection, but the idea has been forced upon me by the collection of these views as an extraordinary fact which has to be, or ought to be, studied and analysed, that it is possible in such a comparatively short time for so many different conceptions of the same problem to have been evolved by so many good men.

Here we have, at any rate, the architectural training of the student to foster, and if it be determined by those best qualified to judge that it is for the good of architecture that there are so many varieties, call them "designs," "styles," or what you will, it is interesting to bring them before our notice for study and comparison; if not, is it not also interesting to study them, to ponder upon the kind of training which has produced them and to consider how far it is possible to deduce any practical lessons from such a review?

I am not advocating a deadly monotony in design, nor do I think it advisable to slavishly copy old work. Careful study of the latter will show how infinitely full of variety it was during any period of English architecture down to the end of the eighteenth century; at the same time it was consistent in design and motive.

In my last paper I pointed out how the work of Mr. Norman Shaw had developed, until, at the close of his professional life, he got back to a true development of a vernacular style, as instanced by the house in Queen's Gate and his splendid work "Chesters." Now, supposing Mr. Norman Shaw had commenced his career with this period of work, it is interesting to speculate upon how he might have developed it, and I submit for our committee's consideration whether, in our classes of design, if the students were asked to submit designs based upon our vernacular work instead of what appears to be the case, viz left to bring in more or less crude ideas, the essence of which seems to be to strike out something novel, such a course might not be productive of good and lead to more thoughtful and consistent work than is now the case. I do not believe this course would cramp the man of genius, and it ought to improve the work of the average student.

Mr Statham has said in one of his books:—"Architecture is now, and must be for the future, a personal art, like sculpture and painting, in which the individual architect gives his impress to his own work, only influenced more or less, like the sculptor and painter, by the prevalent taste and tendency of the age." Well, if that be true our aim as architects should be to try and keep the taste of the age, so far as architecture is concerned, within the bounds of reason and good sense, and so that the public may realise we act up to our motto, viz. that we "Design with beauty and build in truth."

Now you may be saying to yourselves, What have these remarks to do with "corner houses?" My reply is, that they are thoughts which have forced themselves upon me in studying the subject, and we will now proceed to the views, and then you will see that they have considerable bearing upon the question.

Professor **Beresford Pite**, in a communication which was read, said it was very true that a review of recent house architecture displayed extraordinary variety of conception and ideal. It might appear to a foreigner that each architect here was striving for his own hand in the struggle for originality, and was regardless of any consistency, and probably also without the intellectual trammels of a sound education. Such criticism was not easy to resist. Intimate acquaintance, such as was possessed by every architect or student who felt drawn to Friday morning and its building papers with a zest not felt for other days, however, showed that there was method in the madness, and it was in our inability to think for ourselves, independently and academically, that our liability to pursue so eagerly every fashion and phase of a master or type found such unregulated scope. There was a personal element in published current designs from which we cannot dissociate ourselves, and we follow leaders as inevitably as Court dressmakers. He did not know that it was any good to regret this tendency in the absence of a better one. It was a sign of the age Time was not taken to study and criticise design. The facility in draughtsmanship which was attainable in a pupil's second or third year was often his full equipment for the practise of design, and he, no wonder, hungrily devours the notions of modern originators, assimilates and evolves reproductions without at all realising that such designs were not in any sense serious architecture worthy of himself or of his art. The return to tradition, he thought, was practically impossible—we are our own tradition, and the Gothic Revival was as much a tradition to us as the Renaissance was to Elizabethan and Jacobean designers. The violent progress of architecture during the past century had rendered useless the traditions and design of the old masons and carpenters in whose hands much of the house architecture of the pre-Victorian period was practised. These traditions of workmanship were, he feared, as dead as Queen Anne herself, and we should not be understood by the common artificer of our day if we invoked them as his ideal. Machinery, technical class training, decay of apprenticeship and many other influences have now to be reckoned with in the building trades, and we can only do our best to pick up the threads in our own hands and weave them with intelligence and sincerity in the desire to do everything that is best under all circumstances, whether of brickwork, joinery, sanitation or decoration. Our artistic traditions are our own, they lie in our clients' lives and desires and in our own intelligence and studies. The fountains of inspiration are ever open to us in the study of all noble building work—Greek, Roman or Mediæval—and in the work and ways of the individual giants of the Renaissance—even of the Gothic Renaissance—so much nearer to us; and in a hearty appreciation of the fact that it is ours to translate current life into solid materials will lie our road to architectural success.

Mr **Arthur Keen**, in proposing a vote of thanks, said that if Mr. White had not kept closely to the subject of his paper he had, at any rate, given material for reflection on matters that lay at the root of all successful design. It seemed hopeless now to expect a return to any uniform style of architecture or even to uniformity of taste and judgment; the day for that had gone by. But there were certain principles that govern all good design, whether in one style or another or in no recognised style at all, such as suitability, regard for material, self-restraint and so forth, and it appeared to him that in designing corner houses the quality of concentration was too often neglected In visiting Knowle at Sevenoaks lately he was impressed with the importance and value given to the entrance gateway by the almost monotonous reflection of the long row of gables on either side, all alike and with little three-light windows under them. The ordinary way of building town houses in terraces imposed a certain uniformity and breadth of treatment which was of great possible value in connection with the design of the corner building, and it was unfortunate that an opportunity for the effective treatment of one or two important features was often killed by too much being attempted, and only a confused and insipid result being reached. Now, in corner houses it seemed to him that the actual height of the building had an important bearing on the method of design. When the building was low and the roof could be seen, a great point should be made of the roof and its gable and chimneys, and everything else should be subservient to these Where the building was high and the roof could not be well seen, the main effect should be gained by a fine grouping of features on the skyline, and, as a high building was usually a large one, a corner turret might perhaps be introduced A turret was, however, a dangerous thing to attempt, and it should never be used unless the building was large, so that it could be big enough to preserve its individuality. Turrets generally failed by being so small as to appear like something stuck on to, or growing out of a building, instead of being an integral part of it, and this appearance was commonly intensified by turrets being over-windowed. The one on Mr. Shaw's St. James's Street building was a good example. It had brickwork enough in it to look strong and safe; it asserts itself boldly by starting near the ground, instead of in a half-hearted way out of the roof, and it stands up high enough to get clear of its surroundings and to have a good roof of its own, which, moreover, connects the turret to the rest of the composition by running back and covering quite a considerable portion of the building. An interesting point in connection with this building was that although it was as fully decorated as any in London, this elaboration of work was not allowed in any way to interfere with the essential points of the design, namely, the gables, the turret and the ground floor arches. It was only used to give scale and richness without any suggestion of fusiness or confusion. However, the subject of individual features was one that might be discussed at great length; the main point he wanted to emphasise as a small contribution to the subject was that a corner house, coming as the termination of a perhaps uninteresting row of buildings, was the opportunity for showing some well-designed feature to great advantage; the choice lies among many possibilities; it must be made with good judgment, and when it had been made everything else must become subservient to it.

Mr. Maurice B. Adams, in seconding the vote of thanks, said the views they had seen proved the enormous amount of trouble Mr. White had taken with his subject, and the choice of examples had been a catholic one. The importance of a general character in work was somewhat over-estimated, and a lack of unity in modern buildings could not be admitted; because, taken as a whole, they did carry on some degree of continuity with work that had preceded them. The work of to-day was not large enough, it possessed simplicity but lacked dignity because of the amount of detail that was added to it Much of the work done by students of the Association was admirable and above the average, and encouragement should be given them to pursue their studies

Mr. E. W. Wimperis said his impression was that the man who could design good houses for the street could design good corner houses, and the man who could not do a good house in the street could not design a corner house. Referring to the variety of work being done, he thought it was a very healthy sign for architecture in the future They were still going through a state of transition, almost a Renaissance, and the improvement was general and shown all over the country. The good work of the younger men was indisputable and such architectural excellence would help raise their art.

Mr Theo. Moore disagreed with the points expressed in the paper and disapproved of the establishment of an architectural school He believed London to be the most beautiful city in the world by reason of the variety and originality of its architecture.

The President said he was disappointed that the paper had not told more about the planning of corner houses, which was a distinct problem by itself, and one that demanded a great deal of ingenuity. The ordinary corner house of a street was difficult to plan, and, as a rule, the external treatment tempted the architect to run to turrets. The feature had bee rather overdone The extreme variety in modern work was t be regretted It appeared to him that if the general body architects were working together with a certain amount unity of aim the cause would be advanced more than whe they were pulling in opposite directions, and the lack of system of education seemed to be the fault. Systematise education had not spoiled the art in other countries, and h hoped the efforts of the Association would have widespreadin results.

The name of Mr. S. Oetzmann was included in the vote thanks for having prepared the lantern slides.

THE VICTORIA MEMORIAL, CALCUTTA.

THE criticisms—if they may be called so—evoked, so fa in the daily press, on the great work now being starte on the Maidan, are, says *Indian Engineering*, somewhat wid of the mark. The "shifts" of malcontents who desire to a once ventilate their disappointments and conceal their identit are usually more amusing to the initiated than edifying to th public. One of them, who bases his call to interfere on th ground that he has contributed to the fund, has seemingly som real grievance, and even those not behind the scenes ca divine that his anxiety in regard to the development of India marble quarries is a mere "stalking horse." His needles solicitude lest the trustees should fail to consult Sir Swinto Jacob of Jeypore on that subject has been promptly allayed b one of the trustees, who justly invites the subscriber and the public to credit his colleagues with ordinary aptitud for the prosecution of their duties. As, however, the truste is a man of business and not a constructional expert, he ha omitted to notice one or two points on which we venture t supplement his reply. The statement that one of thes cavillers is not a geologist, while patently true, is as funny in it way as the ludicrous suggestion that the director of geologica surveys possesses expert knowledge of the qualities of building stones and of the available supply in marble quarries That, we may assure the public and the trustees, is in n wise a geologist's business, and those of our reader who interest themselves in this subject do not need to b told that the famous Makrana quarries in Rajputana, whic have supplied white marble to Agra and to the whole of Uppe India in and since Badshahi days, are now on the verge—*qu* white marble—of exhaustion. If the malcontent had take the pains to learn anything at all about Indian marbles, h would have known very well that this was so before rushin into print He is equally unhappy in his innuendoes wit regard to the superintending architect, as Mr. Sevenoaks, wh has served the East Indian Railway for some years, is perhap not so young, and surely not so fresh from Europe, as h assumes.

If there be a weak point in the superintending architects appointment, it turns on the fact that the work now startin below ground lies more properly in the sphere of an enginee than of an architect, although, for aught we know, Mr Sevenoaks's capacities may be more on the side of a structura expert than on that of an architect properly so-called. It i nowadays very largely and very justly the practice, both i Europe and in America, to entrust the structural technicalitie of great buildings on anything like this scale—with regar alike to foundations and to girders, &c. — to engineerin specialists. The business of so carrying the load of a grea structure like this memorial on such substrata as prevail unde the Calcutta Maidan, as to avoid partial settlement, is one of ver notable difficulty. There is scarcely one modern structure of an note in Calcutta that has not given trouble on this head, from the public offices and the high court on one hand, to th Kidderpore docks on the other. Sir William Emerson's design so far as we yet gather, is very well adapted to this class o foundation in disposing of the maximum load symmetricall round the centre and not—as with the tower of the high court—on one side of the occupied area. We do not doub that, in consonance with modern practice, Sir William has taken the advice of some competent foundation engineer a home on the disposition of his concrete substratum; but even if so, it may very well be that the design can be improve still further by reference to engineers with local experience, as for instance, Mr. Horn; and even supposing the design to be perfect, there is probably still room for counsel as regards the materials and mode of laying in the concrete that will best sui the climate and environment.

We are assuming in this connection that the contractors are not working to specifications which originate with them, but to formulæ laid down for their guidance. If so, it may be that Mr. Sevenoaks, though rated as an architect, knows all there is to know of these matters, but that is not a patent and inherent probability. Failing perfect fore-knowledge, he will necessarily proceed tentatively in such points as Sir William Emerson leaves within his discretion—will make crucial experiments with all available descriptions of matrix conjoined with every procurable class of aggregate, and will test specimens to destruction on the large scale before adopting irrevocable decisions. To omit such precautions, in default of consulting local experience, would be sheer infatuation, notwithstanding the time they must occupy. If the superintending architect is not an engineer, or if, albeit an engineer, his local knowledge is limited, his preliminary experiments must necessarily be all the more protracted, for there is no royal road to learning what here it is essential to foreknow. There are in Government service several very competent engineers who have spent a working lifetime in mastering this class of problem. The whole art of progress consists in beginning from the coign of vantage which local knowledge has already acquired. We do not doubt that more than one proficient expert can be found who would gladly serve as honorary consulting engineer to this national undertaking, and we unhesitatingly commend the idea of calling in an engineering sub-committee to assist Mr. Sevenoaks and the trustees in purely structural matters. We are the more anxious to see some arrangement of the sort, because we regard the result of observations on small loaded pillars as wholly inconclusive. It is but fair to Mr. Sevenoaks to add that the class of so-called experiments in question was devised before he became connected with the work.

Our readers will be glad to hear that a firm of such eminent repute, capacity and experience as Messrs. Martin & Co. have got this contract. It is no reflection on other Calcutta builders to say that this part of the work could not be in better and more competent hands.

APSLEY HOUSE.

A PARTY of members of the Upper Norwood Athenæum were enabled lately to visit, under the guidance of Mr. H. Martyn Hill, Apsley House, having obtained special permission from His Grace the Duke of Wellington.

The Museum was first visited. Here are collected the most important of the relics of the Iron Duke. The beautiful services of Sèvres and Dresden porcelain, the suite of silver-gilt table ornaments given by the Portuguese, and the magnificent gold shield, said to have cost 15,000*l*., presented by the merchants and bankers of London, were among the many objects admired. Specially interesting was the jewel given by Charles I. when on the scaffold to Bishop Juxon.

The suite of rooms on the first floor was then inspected, passing *en route* Canova's colossal statue of Napoleon, sculptured by his order to commemorate his contemplated victory over the world The magnificent Waterloo Gallery, overlooking the park, and other rooms contain pictures and various works of art full of interest from their associations. Among them are many portraits given by crowned heads of Europe, and the valuable Spanish, Dutch and Italian pictures found among the baggage of Joseph Bonaparte after the battle of Vittoria, and sent as spoils of war to London.

Mr. H. Martyn Hill afterwards read the following paper :—

Apsley House, which some intelligent foreigner in bygone days termed "No. 1 London," is situated at the west end of Piccadilly, overlooking Hyde Park. So far as is known, the first mention of Piccadilly occurs in "Gerard's Herbal" about 1641, where he mentions that certain herbs grew on the banks of the dry ditches of "Piccadilla." There was a gambling hall called Piccadilla Hall, to which the poet, Sir John Suckling, used to resort; it is said his sisters followed him there, crying for fear he should gamble away their portions.

Apsley House was originally a red brick mansion built for Henry Bathurst, Baron Apsley, Earl Bathurst, Lord High Chancellor of England. Part of the ground on which it stands was Crown land granted by George II. to a soldier named Allen who had squatted there; the king recognised the man as a soldier he had seen at the battle of Dettingen. The man built a small brick tenement there in the place of the apple stall kept by his wife. Apsley House was afterwards occupied by the Marquis of Wellesley, the eldest brother of the Great Duke. In 1820 it was bought by the nation for the Duke of Wellington who, in 1828, had it cased in Bath stone.

The Wellesleys were a remarkable family, coming originally, according to one account, on one side from the Wesleys of Somersetshire; they passed into Gloucestershire and became Wesleys distantly connected, so it is said, with the founders of the Methodists, John and Charles Wesley, and on the other side from Colley or Cowley, who also crossed into Ireland.

According to Burke, Garrett Wellesley, of Dangan, bequeathed all his property to his cousin, Richard Colley, who assumed the name of Wellesley Another Garrett Wellesley was created Baron Mornington, and afterwards advanced to Viscount Wellesley and Earl of Mornington, and was famous for his musical talents. He had five sons, of whom four were sitting in the House of Lords at one time—the Marquis of Wellesley, the Duke of Wellington, the Earl of Mornington and Earl Cowley. Gerald, the fifth son, entered the ministry and became prebendary of Durham. Arthur Wesley was born in 1769, the same year as his great opponent, Napoleon. He was partly educated at the Military Academy of Angers in France, and always ascribed much of his success to the correct scientific education he received there.

It was not until 1789 that, at the request of his brother, the Marquis of Wellesley, he changed his name to Wellesley. He went out to India as colonel of the 33rd Regiment, and through the influence of his brother, the Marquis of Wellesley, gained promotion rapidly, which he well deserved. He saw much service, breaking the power of the Maharattas at Assaye, and after a long and hard campaigning in Spain and Portugal he finally destroyed the supremacy of Napoleon at Waterloo.

It is said that in 1815 he withstood the cession of Alsace and Lorraine to Prussia His subsequent life was bound up with the political history of this country

On entering Apsley House the first objects of interest are the bust of the Duke by Steel, a bust of Castlereagh by Chantry, and of Pitt by Nollekens, all in the waiting-room. At the foot of the staircase is a colossal statue of Napoleon holding a bronze figure of Victory by Canova, and on the stairs a full-length portrait of Charles I by Vandyke. The pictures to be seen in the drawing-room are as follow :—"The Card Players," by Caravaggio; "Portrait of the Duke of Marlborough," supposed to be by Vandermullen; "Chelsea Pensioners," by Wilkie; "Greenwich Pensioners," by Burnet; there is also the only battle-scene by Burnet, viz. "Waterloo, taken from the Headquarters of Napoleon," of which the Duke observed, "Good, very good; not too much smoke." In the Waterloo Gallery will be found "Christ on the Mount of Olives," by Correggio (considered the gem of the collection); "Portrait of Pope Innocent X.," by Velasquez; "Two Young Men at a Meal," "Portrait of Don Francisco de Quevedo," both by Velasquez (these three pictures were in the Guildhall collection in 1901) There are also some fine examples by Murillo and Spagnoletto and various Dutch artists Amongst the miniatures will be found a lovely portrait of Mary, Queen of Scots. The most interesting room is that filled with the presents to the great Duke, called the Museum. The collection of Dresden and Sèvres china; the magnificent gilt service given by the Regent of Portugal, bearing figures of dancing girls, is very choice and of most elaborate workmanship. There is one table with snuff-boxes on which the portraits are beautifully painted; another with the insignia of the various orders conferred on the great Duke, of which the order of the Golden Fleece is the most elaborate A large portion of one day might be spent with profit as well as pleasure in this room.

In closing my brief account of this historic mansion I beg to call your attention to the fact that whilst in many other houses we have visited the collections of pictures and other artistic objects have been slowly gathered together during several generations, in Apsley House we have the collection of one man, many of the gifts testifying to the deep feeling of gratitude evinced by the donors at the deliverance wrought for them from the exactions of his mighty adversary. I feel we owe a debt of gratitude to the present Duke for his kindness in permitting us to have access to the house, and to his agent (Captain Pratt Barlow) for the courtesy he has shown in allowing us to make the visit on Saturday, to suit the convenience of the members of the Society.

An Interesting Discovery has just been made in the course of alterations being carried out at James Melville's watch-tower at Anstruther, Fifeshire, from which ancient building signs of the Invincible Armada were eagerly looked for, and where, in the days of the "press gang," a fugitive was successfully hidden for some weeks, and was only captured through treachery. The building, which now constitutes the old kirk manse, was erected in 1590, in the typical heavy style of architecture of that ilk, and, as testified by old writings, was commenced in September of 1589 and finished on Whit Sunday of the following year—nine months in all—the labourers during the work receiving the remuneration of 3*d*. per diem, and considered themselves well paid. At the present time this ancient building is being subjected to a thorough overhaul for the reception of the Rev. J Woodside-Robinson, the newly-appointed parish minister. The workmen, in knocking out the north wall of a ground cellar, came across a flight of stairs in a good state of preservation built in the wall. On tracing its supposed course an outlet was discovered in a closet of a room in the second storey. Further examination revealed the undoubted existence of a passage, and on measuring the room in which the outlet was found it was discovered that 4 feet of space remained to be accounted for.

NOTES AND COMMENTS.

It is often difficult to explain the reasons for the affection which a church can command in a city where there is a cathedral. Old St. Paul's, for example, was evidently less esteemed than some of the monastic churches. A remarkable instance is just now presented in Toulouse. It would be unwise to assign a date as to the foundation of the cathedral, but it was probably erected during the reign of the Visigoths. The building was altered from time to time, and the irregularity apparent to the most indifferent spectator arises from that fact. The choir was reconstructed in the beginning of the seventeenth century; the porch is of the fifteenth century; but it is easy to see the cathedral had to sustain a long period of neglect. The church of St. Sernin, on the contrary, is infinitely better adapted to serve as a cathedral. It is one of the noblest buildings in all France. The cathedral possesses, however, an official right to be conserved in the best manner possible, and about thirty-five years ago efforts were made to raise a restoration fund. A lottery was organised and eventually the sum of a million francs was secured. The money was placed with the Government, but no arrangements were made for its appropriation. The condition of the fabric has rendered it necessary that something should be done. Proposals have been advanced to remove the nave and erect a structure more in keeping with the choir. It seemed as if an end was never likely to come to the discussions about restoration, and in order to evade the difficulty it is advocated that after executing some indispensable renovation, steps should be taken for the decoration of the building by means of paintings. To anyone acquainted with the cathedral the project appears as absurd as the giving ruffles to a man who wanted a shirt. It is, however, likely that the project will be carried out, and the greater part of the money expended not on the cathedral, but on the favourite church of St. Sernin.

In 1901 the Society of German Engineers resolved on the preparation of a technological dictionary for the use of translators, in German, English and French. The co-operation of 363 contributors was secured, viz. 274 German, Austrian and Swiss, 51 English and American, 38 French and Belgian. In addition, contributions were promised from 2,753 individuals and firms. It is calculated that nearly two millions of words will have to be considered. The work of classification, defining, comparison is now in operation. It is not expected that the volumes will be ready for printing until 1906. This great dictionary is being organised by Dr. Hubert Jansen. There are already several technological dictionaries in the three languages to be obtained, but they are generally compiled by one individual. Necessarily shortcomings arise, for it is beyond human powers for one man to be able to grasp all that is recognised as engineering in our time.

Although French houses are generally strongly built, the explosion in one at the corner of the Boulevard de Sébastopol and the Rue Etienne-Marcel reveals the danger attending manufactories on a small scale. An explosion of gas in the workroom of an embroiderer was able to make a hole in the ceiling. The room above was another manufactory of a more dangerous character, for the products were celluloid combs. This second explosion was still fiercer, and the upper storeys were easily overcome. Thirteen people were found dead and eighteen wounded. It may be said that a law should be passed prohibiting the carrying on of manufactures in dwelling houses. But an edict of that kind would so powerfully affect French industries, it would be likely to cause a revolution. Many of those "objets de Paris" which are prized throughout the world are either wholly or partially produced by chamber-masters who may possess only one room as an atelier. An effort should, however, be made to put some restriction on operations with inflammable substances like celluloid. The house which has suffered by the explosion was one which already was known to archæologists from an incident which occurred nearly six centuries ago in another building which stood on that site. As in many other corners of Paris, there was a statue of the Blessed Virgin within a grille of iron, before which a lamp was always burning. The custom has died out in Paris, but it is still continued in some Belgian towns. A soldier who had lost his money in a cabaret revenged himself by striking the figure with his sword. Blood, it is recorded, flowed from it. The man was arrested, tried and executed. In order to prevent similar scenes, the statue was carried to the neighbouring church of St. Martin des Champs. Every year there was a procession, and a part of the ceremony was the burning of the effigy of the soldier. The Revolution put an end to the custom.

The doubts raised within the last few years about the authenticity of some of the important works in the Louvre are not likely to be suspended by the results of the inquiry into the crown of Saïtapharnes. The latest attempt is the most remarkable, for it impugns one of the most prized works, *La Belle Jardinière*, of Raphael. The picture is especially dear to Frenchmen. It was purchased for Francis I., and was never absent from the royal collections until 1792, when it was transferred to the public gallery of the Louvre. The picture is one of the most charming of its class. It was accepted as characteristic of the master, but questions have arisen in connection with it which still remain unanswered. Vasari says it was painted during Raphael's last visit to Florence. According to the biographer he "prepared a picture which was afterwards sent to Siena, but had first to be left with Ridolfo Ghirlandajo, on the departure of Raphael, to the end that he might finish an azure vestment which was still wanting when Raphael left Florence." Some modern critics believe that the *Madonna* which Ghirlandajo completed was one in the Colonna Palace, now belonging to Mr. Pierpont Morgan. From an early date there was, however, a picture which was declared to be the original, although it seemed more like a copy by a Flemish artist. If it can be demonstrated that the Louvre picture is not the original there will be misgivings concerning the principal masterpieces.

We regret to have to record the death on Tuesday of Mr. Percival Gordon Smith, who for several years was a valuable public servant, having held the office of architect to the Local Government Board. Architects have repeatedly testified to the courtesy and fellow-feeling with which he received them whenever they had to submit plans for inspection. His reports could be considered as treatises, owing to the amount of information which they contain. If a few men like Mr. Gordon-Smith could be found they would do much to remove the prejudice against public officials, which is alike injurious to the public service and unprofitable to the general community.

ILLUSTRATIONS.

WALTHAM ABBEY.

ST. OLAVE'S, SOUTHWARK.

ROMAN CATHOLIC CATHEDRAL, WESTMINSTER—NAVE. LOOKING SOUTH.

WILKINSON'S SWORD COMPANY'S PREMISES, ST. JAMES'S SQUARE.

CRANSTON'S HOTEL.

DOORWAY IN WINDOW WOODWORK AND PANELLING.

FIREPLACE IN WINDOW WOODWORK AND PANELLING.

WALTHAM ABBEY.

IN 1860 Waltham Abbey was restored under the superintendence of the late William Burges. In 1875 he undertook he work of the lady chapel. In an article on the building in *The Architect* he wrote :—

"It is needless to relate the story of the wonderful cross which played so conspicuous a part in English history, and rom which the church and town of Waltham derive their urname. It will be sufficient to say that there are few points more disputed among antiquaries than the question whether he nave of the present church is or is not the work of Harold. However this may be, it is certain that very extensive alterations were made in the transepts and eastern end, when Henry II. turned out the secular canons and introduced egulars of the order of St. Augustine. During the thirteenth century there appears to have existed a great amount of ill-will between the monastery and the townsmen. This was a very common state of things at that time, and was doubtless the cause of a large and extensive choir being built in 1242.

"The arrangements would then be the same as are seen in so many other conventual churches; the townsmen had possession of the old nave, and their altar and its screen were placed between the westernmost piers of the central lantern, exactly where the parochial altar is placed at the present day. In fact, the wall still preserves traces of the two doors on either side of the reredos. The rood-screen of the monastic choir would be placed between the easternmost piers of the antern, and all beyond would belong to the canons

"Thus matters remained until the year 1286, when we learn rom a document published in the twenty-third volume of the *Archæological Journal* that the nave having become ruinous, he parishioners were enjoined by the abbot to repair it. Accordingly it was repaired, and it is seldom we obtain a piece of architecture so clearly dated. It is worth while noting how he parish proceeded. In the first place they obtained the ervices of a first-rate architect, for nothing can be more beautiful than what remains of the west front which was then added. Unfortunately, stone is scarce in Essex, and a great portion of that material required for the purpose was obtained by abstracting it from the old nave. In the present day we ee traces of this abstraction in the plaster-string under the riforium arches, &c.

"Some thirty years afterwards (in 1316) the lady chapel was rected. It is generally known by the name of the lady chapel, but if that were really its dedication it was probably a lady hapel for the use of the parish, as it is absurd to suppose that he large and important choir erected in the preceding century would have wanted such a feature. It is quite possible that he same architect may have erected both the west front and his building; but if so, there is a marked change in the mouldings and details which would only prove that he followed he fashion of the time.

"The architect selected as his site the space formed by the asternmost bay of the south aisle of the nave and the western ide of the south transept. He thus blocked up three windows in the aisle, and one, or probably a pair, of the transept, for I trongly suspect that the window at the east end of chapel must originally have been a double composition. Above, the roof lso shut out the light from a window on a line with the triforium of the nave, for the transepts had no aisles on their western ides

"I should mention that the foundations of the nave are very bad, some 6 inches of clay intervening between the gravel and he masonry. The whole church has therefore a lurch to the west, and it is very probable if the western tower which acts as a buttress had not been built, that the building would not have remained to the present time. The architect of the lady hapel was wiser; he went down lower for his foundations, and he building is free from any severe cracks. He also rendered it more healthy and less damp by building a crypt underneath it"

A study of the masonry in order to determine the disputes bout the age of different parts of the Abbey, by Mr. J A. Reeve, who was on Mr. Burges's staff, will be found in vol xv. of *The Architect.* His conclusion is :—"It is far more rational o believe that the earlier portion of the Abbey now in existence does belong to the building founded by Harold some ten years before the Norman invasion, than to suppose that his church, which we know to have been a very fine and substantial building, was entirely destroyed, and rebuilt at an immense cost by ither of the Norman kings who immediately succeeded him on the throne of England."

John Carter, the architect, who visited the building in 1807, gives the following description of its condition at that time :—

The remains of this magnificent Saxon are at present under the power of workmen, who, it seems, are putting on a new ceiling, the old one, of about forty or fifty years' standing, being found in a state the most dangerous. Thus, as no one can positively say when a mason, a carpenter or a bricklayer gets into a building when or how he will get out, it is best to be prepared for the worst. On this sort of apprehension or doubt, I was induced this spring to survey the whole precincts, and found the state of the existing edifices as here specified

General Plan.—The outline of the precincts to the north is bounded by the river Lee, over which are two bridges, one leading to the abbey gateway on the west, and the other to a part of the precincts on the north-east. The precincts lie on the north side of the church, and little more than lines of ruined walls (marking no edifice to which they once made a part) are to be met with. The church has immediately on its west front the High Street of the town, and on its south front the cemetery. On the east front are gardens. The church consists of a west tower (under it the west porch), and the nave of the original edifice; the west front of which, with the transepts, choir and our lady's chapel, destroyed. On the south side of the church, towards the eastern extremity, is a small chapel (and crypt) attached to it.

Elevations.—The bridge leading to the abbey gateway is small, and of no great interest. The bridge leading to the precincts on the north-east, although in ruins, gives a beautifully constructed arch. The abbey gateway is either of a very simple design, or has been havocked down to the front wall, wherein is the road-gate and postern to ditto. In the several ruined walls nothing satisfactory occurs so as to determine where stood the cloisters, chapter-house, refectory, dormitory, abbot's lodgings, &c.

The Church.

West Front.—Of the first Saxon design there is none left; the present front, as far as it goes, is the architecture of Edward III. The tower, built up immediately against the centre of the front, was done in 1558; therefore, what is discernible of Edward's work is the centre doorway (now within the west porch) and the exteriors of the aisles of the nave, which are of a degree of masonry and sculpture neither too rich nor too plain. The doorway has columns on each side, with foliaged capitals; and the outer line of the architrave to the arch runs into a pediment, having in the spandrel, where is some tracery, the head of a religious. The windows of the aisles give mullions with sweeping or ornamental tracery, over them small circular ditto with turns. At the angles of the front are buttresses, with niches and pediments. A double parapet, one over the other (the upper one perforated), finishes the upright. There is likewise a buttress on each side of the tower; but whatever was the continuation of the work to the centre of the front, it must have been utterly destroyed when the present tower was set up as above stated, the doorway of which may be termed rich. The upper half of this tower in 1778 was taken down, and a paltry substitute of four stone walls with oblong holes set up by way of a belfry; I was told while making my memoranda, and which is no way surprising, that this same belfry is already so far become unsafe that it is shortly to be taken down. So dead are the guardians of this church to Edward's refined architecture, that the west doorway above described is partly hid by hutches and timber piles, the west porch serving more for the purposes of a lumber-shed than the introductory pass to a sacred sanctuary, the house of God

South Front.—So much of havoc, alteration and patching up has been done on this line that there is some difficulty to ascertain the original decorations of the upright. It gives the aisle of the nave or first storey, and the windows to the gallery or upper storey. At about one-third of the length of the remains are vestiges of a large and noble porch, where are to be discerned some columns, arches and diagonalled architraves. The windows to each storey have columns, with plain capitals, made out by an inverted sweep; and the architraves show the diagonals. Between the windows are breaks or pilasters There are strings to the two storeys, and the parapets to each are supported by masks and human heads. In the running compartment to the first storey are circular diagonalled recesses. The turn of the design evinces simplicity united with an air of grandeur. Towards the extremity of the nave is an attached chapel and crypt, the work of the Tudor times. This chapel has been so cruelly mangled that little remains to cause an interest about what may be its pending fate. Its present use is seemingly to hold lumber, gardeners' tools, seeds, &c. The crypt is more perfect, and deserves much attention. The use made of it is for the stowing up of skulls, &c.

Present East Front.—Made up, since the havoc general of the church, by filling in the west great arch of the destroyed centre tower with all kinds of rubbish, and a beastly common workshop window stuck among them. There is in continuation some line of the west side of the south transept, wherein is a curious window, &c.

North Front—In a worse state of disfigurement, if possible than the south front. All sorts of modern makeshift windows, done in the modern restoring way, are crammed in among the few original ones left. This front corresponds with that of the south

Interior.—West end a mere blank, excepting the opening of the Edwardian doorway already described. East end shows the grand arch of the destroyed centre tower; it rises the whole height of the nave. The length of the nave is given in seven divisions. The height comprehends three storeys. The first storey is for the side-aisles, the second the principal gallery, and the third is for the upper windows or second gallery. Between each grand arch to first storey, and supporting it, are clustered and single columns alternately. The arches to the first and second gallery, in the three first divisions from the west, have pointed heads, some of a plain design, and others of the general rich embellishments of the interior. This combination of circular and pointed arches, we have often remarked, is familiar in the Saxon order, and proves how well grounded is our position, that the Pointed order emerged from the former. In the decorations to the whole construction are many varieties, but none so prominent as to break in upon the harmony of the whole work On this occasion to describe one division may be deemed quite sufficient. To the first storey the centre great arch springs from clustered columns on the left, and from a single one on the right. The second storey has its arch supported by clusters of small columns. Part of the design is here wanting, which, by consulting similar buildings, might with ease be restored. . . . The third storey contains a large arch with smaller ones on each side, supported by single columns. The grand single column to the first storey is fluted diagonally; all the rest of the columns are plain. The architraves to the arches are much enriched with diagonals. In referring to other parts of the interior, we find some of the great single columns with serpentine fluted diagonals.

SOCIETY OF ARCHITECTS.

On Thursday, the 18th inst, Mr. David M. Nesbit read a paper of unusual length before the Society on "Warming and Ventilation." In the course of it he said :—

In large institutions, where the engineering plant has to be of such a complex nature as to cover the whole field of domestic engineering and embrace such items as warming and ventilating, electric lighting, pumping, cold and hot-water services, laundry, cooking apparatus, &c., it is advisable to house the whole of the generating plant at one central station and do all the work from one point This has many advantages, a few of which may be enumerated :—

1. Reduced cost of installation ;
2. Reduced cost of maintenance or upkeep ;
3. Reduced cost of engineer's time and assistance looking after plant ;
4. Less cost in fuel ;
5. Less cost in water ;
6. Less cost in steam consumption ;
7. Coal, dust and refuse all centred at one spot ;
8. Advantage of the superintending engineer being able to see the whole of the plant from one centre ;

and other features, all of an economical nature too numerous to mention.

With a central plant the exhaust steam from the several engines and pumps can be so collected as to insure its being done to the best advantage, and to such an extent that a considerable saving is effected in the year's expenditure in the maintenance of some public institutions.

A. R. Wolff states:—

"From the considerations already set forth, and others to be presented, it will readily be inferred that the almost general introduction of electric lighting with isolated generating plants in large buildings has had a sensible effect on the solution of the heating and ventilating problem. On account of the economy secured it has practically conditioned the use of exhaust steam for heating. It is an interesting fact that the quantity of steam required for heating and ventilating large buildings, notably club-houses, colleges, theatres, halls, &c, equals closely the amount used independently for their electric lighting. Since electric-light engines convert only about 10 to 15 per cent. of the heat of the steam with which they are supplied into mechanical energy, 85 to 90 per cent. of the heat is retained in the exhaust steam, available and just sufficient, as a rule, to meet the heating and ventilating needs of the building."

Coal.

Considering the extent to which our coal resources are being drawn upon, and that in some directions we are within sight of the period of probable exhaustion, the necessity of most economical usage lends additional force to this recommendation of the centralisation of the engineering plant.

The extent of the shrinkage of our available coal supply may be gathered from the fact that in the year 1902 the amount raised in the United Kingdom was 227,095,042 tons, but in 1882 it was 156,499,977 tons, showing an increase in output of 70,595,065 tons, or 45·1 per cent. increase in the short space twenty years. Mr. Pryce Williams, in a paper read before t Royal Statistical Society, estimated that the coal supplies the United Kingdom will have become exhausted in the f lowing short periods :—

Northumberland and Durham	94 years
South Wales	78 ,,
Lancashire and Cheshire	74 ,,
Yorkshire, Derby and Notts . . .	72 ,,
Warwick	53 ,,
Denbigh and Flint	250 ,,
Scotland	92 ,,

These figures urge us in the most forcible manner economise the consumption wherever possible, in order th we may not recklessly increase the difficulty of the proble which a future generation, by no means remote, will have face.

Utilisation of Exhaust Steam.

During the last fifteen years I have given much thoug and study to the utilisation of exhaust steam. Many clien and even engineers, who have not considered this proble think that when steam has once passed through some form engine or pump the exhaust is so much waste, and is a residu or "by-product" of no consideration ; but when I mention t fact that the exhaust steam from an engine developi 100 i.h p, supplying light to, say, 900 to 1,000 16 candle-pow incandescent lamps, will heat a building with direct heati surface containing 1,500,000 cubic feet of space, and is equ to a coal consumption of 353 tons per six months of wint weather for a twelve hours working day, it will readily be se what a valuable "by-product" there is in exhaust steam ; or indeed, which should be well taken care of by the authoriti who have charge of our public institutions This saving c also be attained without adding back pressure to the engi and pumps, a matter which seems to haunt the average eng neer like a nightmare. With the addition of the "vacuu system of heating it is possible to circulate steam over t largest institutions you may have to design and erect, witho any pressure whatever, nay oftentimes use a vacuum of 10 inch which gives the steam at the low temperature of 190 de Fahr, or less than a good low pressure hot-water circulati In cases where this system has been applied it has helped t engines and pumps rather than retarded their working, owi to the fact that a partial vacuum has been effected at the ba end of the pistons, and more horse-power has been develop thereby. I may add we have installations working where t principle is shown to a marked extent.

Nottingham workhouse (the building covering ab 31 acres) is working under 13 inches of vacuum, viz. 182 de Fahr

Wolverhampton workhouse (the building covering 29¾ acr is working under 15 inches of vacuum, viz 176 degs. Fahr.

Scalebor asylum (the building covering 5½ acres) is worki under 8 inches of vacuum, viz. 197 degs. Fahr.

Economy.

So much has been written about economy in heating pla &c., that it is as well to give you an example which has recen come under my own observation.

An installation was to be worked with live steam at 40 l pressure. Exhaust steam was used from the electric-li engines, and the saving to the authorities reaches the ha some figure of 9 cwts. per hour, so that if the apparatus wo eight hours for six days per week, the saving will amount 21½ tons in the aggregate per week. But further econom were still possible in the consumption of coal, coke and wat By the substitution of the "Nuconomiser" system for the hot-well arrangement at the St. George's infirmary, Fulh Road, London, S.W, the saving effected during twelve mon is equal to 326*l*, and they now supply their boilers with fe water at boiling-point, viz. 212 degs Fahr, instead of water very low temperature. At an hotel on the South Coast, wh the system has been in operation for five months, the saving coal alone amounts to 107 tons, which at 27*s*. per ton is eq to 144*l*. 9*s*

At Brook Street workhouse infirmary, Kennington Ro S.E., also the apparatus is in thorough working order a giving every satisfaction.

Grease Separation.

It has been asserted that by using exhaust steam the gre in suspension is carried over and is injected into the boile causing damage to them, but experience shows that this is fallacy. To eliminate the grease from the exhaust steam t "Nudeemen" grease separator is the best of its kind on t market at the present day, and will remove about 98 to 99 p cent of the oil passed into the engine cylinders throug properly gauged sight feed lubricator. This is only one or t of the many special contrivances that are now used in a mode equipped domestic engineering plant. All these necessary orations, however, are costly, but an apparatus designed on ines I have indicated cannot be otherwise.

n dealing with the first cost of the installation the nature e results to be achieved should be fully kept in mind. I sometimes these are not always considered when a warming ventilating installation is being decided upon. Good work pensive, and will always be so, though the aim of a wise neer will always be to cheapen the first cost wherever ible.

Inlets and Outlets.

uch discussion has taken place amongst experts as to the er position of inlets and outlets, and my own opinion is the right position for the inlet, if not at the ceiling level, m 8 to 10 feet from the floor line, and that of the outlets, close to the floor line.

he following authorities are in support of this view.

r. Carpenter states (page 456):—

It (the outlet) should be placed near or in the floor, in to remove as effectively as possible the air which traverses ower part of the room in the floor currents, and in order event its rise at the inner wall and its re-entrance into the ng current of warmer and purer air."

r. Billing states (page 255):—

There is less objection to placing foul-air registers in the as for instance in an hospital ward, where a good position e foul-air registers is in the floor beneath each bed, and the register should not be flush with the floor, but rise an or two above its surface."

riggs's "Modern School Buildings" (page 161) after ing of warm-air inlets, says:—

A strong upward draught is produced which sucks the r impure air through the outgoing registers, situated at oor level of the several rooms and halls."

ir Douglas Galton in "Hospital Construction" (page 79) :—

That the openings for the admission of fresh air should be 6 to 9 feet from the floor, and the openings for the action of the air should on the contrary be placed ally in the side wall 3 or 4 inches above the floor level, an upward slope at the back to prevent lodgment of dirt."

ufus R Wade, as chief inspector of district police for the of Massachusetts, in his report for 1893 (page 54) :—

In large schoolrooms, halls and audience-rooms, it has found by practical experience and observation that the esults are obtained when fresh-air inlets are placed 6 or above the floor level, and the foul-air outlets near the air inlets and at the level of the floor. Having provided e removal of the vitiated air, inlets for the supply of fresh ust be provided, and in estimating the size of fresh-air we should not forget that the moment the current of d air is drawn from the room air will find its way, inde- ntly of properly constructed channels, through every and opening in every part of the room and around closed ws and doors This additional amount of air received d be taken into consideration in estimating the size of air inlets. As a rule, in our public halls, audience-rooms chool houses fresh air as it enters the room is warmed by ces or steam heat. Whatever system is adopted for or furnace heat, we should not forget that the upright is one of the most important factors in obtaining suc- l results for the removal of the vitiated air, and also to room for the warm, fresh air to enter the openings led for its use. The air thus warmed, entering inlets rly located, will circulate through the room, and the bad drawn to the bottom of the warm ventilating shaft. Let peat that the best results have been obtained where foul s been taken from the floor level, instead of the walls or g of the room."

Boilers.

eep these of ample size. They need not consume extra n account of their size unless the attendant is careless. em be simple in construction. I believe the more simple er is the better it is; but there are exceptions to all rules. engineers have a preference for wrought-iron over cast- oilers, and *vice versâ.* Both types have good qualities, re should be exercised in the selection of a boiler suitable e duties expected of it. For low-pressure steamwork ty), say at 5 lbs. working pressure and under, for small lations, cast-iron sectional boilers are used with success. w-pressure hot-water work, where the head of water does ceed 15 to 20 feet the same type of boiler may be used, r the higher pressure wrought-iron boilers of the simplest are preferable—say a plain saddle, return-end saddle, sh Trentham with check draught end, and the cylindrical top boiler. It should always be remembered that a well set in brickwork is more economical as far as fuel mption and attention is concerned than a boiler without vork.

Boilers for High Pressure.

Boilers for high-steam pressures should be made from best mild steel sheets. The best and most economical boilers for large installations are of the Cornish or Lancashire type. A Cornish steam boiler has one flue fixed eccentrically in relation to the outer shell. A Lancashire boiler is generally denoted by having two flues fixed eccentrically in relation to the outer shell, and it is common practice now to have such boilers working up to 140 and 160 lbs. pressure daily. There are several makes of steam boilers on the market; among others the Davey-Paxman "Economic," Babcock & Wilcox and others. These are good boilers of their respective kinds, but best suited for particular classes of work. If I required a boiler for generating steam for electric-lighting purposes at a public station, I would have no hesitation in using either make of boiler mentioned, because both are built to stand very heavy working pressures. These boilers are more or less of the locomotive or tubular type.

Pipes and Piping.

Much care and study should be bestowed on the selection, alignment and fixing of pipes. For high-class work wrought iron or steel pipes, with either screwed joints or a special joint (see sample), should be used for pressures up to 20 lbs. Cast-iron pipes with caulked joints are generally a source of annoyance to engineers, owing to leakages through faulty castings and often through the joints being over-caulked by careless workmen. I have known this over-caulking to occur to such an extent that the pipe has been quite choked up. In one installation I had in hand some years ago, the pipes had to be cut in twelve places in order to remove the obstruction caused through the carelessness of the fitters who erected the plant. This cannot occur with wrought pipes, or piping fixed with the sample joint I have here for inspection, as the fact of the joints being screwed or bolted together leaves a flush surface on the inside of the pipes. In jointing wrought-iron pipes the fitter should be extremely careful to use as little red and white lead as possible, and endeavour to make the joints really "metallic," that is, iron to iron, without (if possible) the aid of red and white lead and flax, but this requires skill on the part of the operative and it is seldom done. I have known cases where a careless operative in making a screwed joint in wrought-iron pipe has left so much jointing material (red and white lead) on the inside of the pipe that when the matrix set it was so hard that it formed an obstruction to the flow of the steam and hot water, and this could only be detected when the pipes were taken apart. Perhaps when we Englishmen have arranged our screwing tackle on a better basis we shall be able to dispense with jointing material altogether.

Many people who are uninitiated in the art of pipe fixing think that the alignment of piping is of no serious consequence, but I assure you that many installations are more defective through the want of proper care being exercised in the correct grading and alignment of piping than anything else I know of.

Radiators.

The radiator question is one of the most serious matters in relation to this subject that heating engineers and architects have to face at present. Some of the designs are not attractive and hardly suitable to the architecture of this country, but beyond the fact of their unsightly appearance, their defective heating qualities have to be considered. It is a fact that a radiator most suitable for hot-water work is often quite unsuitable for steam work, and *vice versâ*; but my opinion is that many of the radiators now being sold in the English market are too highly rated, and their ratings should be either reduced or withdrawn altogether.

There are several points such as ratings of boilers, radiators, &c., which engineers have hitherto taken for granted, and by so doing they have often laid themselves open to censure, though probably through no fault of their own, but owing rather to a want of knowledge on the subject. While you may obtain a catalogue giving all particulars which the makers wish to state, this is not all that is required by any means; for some radiators actually will not heat within 50 per cent. of their rated capacity. Some of the radiators on the market have been so disappointing that I have felt constrained to make a radiator myself, both for direct and indirect heating, so as to insure its heating capacity being ample. The great mistake in apportioning the heating surface of radiators is made by the surface being measured for a commercial basis and not for a "condensing" or heating basis. The best ventilating or indirect radiator is probably that used at the University College Hospital, Gower Street, London. They had to have a radiator capable of admitting 4,000 cubic feet of air per bed per hour, and in a 24-bed ward this gave an aggregate of 96,000 cubic feet of air per hour through eight radiators.

SARCOPHAGI, STELÆ AND PEDESTALS.

THE second of the course of lectures on "Sculpture" was delivered by Dr. A S. Murray, keeper of Greek and Roman antiquities in the British Museum, before the students of the Royal Academy on the 15th inst. Dr Murray treated of "Sarcophagi," and took as his examples specimens executed under Greek influence at various periods. The earliest of which Dr. Murray spoke dates from about 600 B.C., and is of terra-cotta, with pictures painted on the inside as if they were meant for the deceased alone. The lecturer criticised a marble sarcophagus from Cyprus, with reliefs depicting hunting scenes and Perseus carrying off the Gorgon's head in his wallet. This sarcophagus must, he thought, have been imported from Asia Minor, for it showed too much skill to have been executed in Cyprus. Some of the casts made by Sir Charles Fellowes many years ago, and now in the Lycian Room at the British Museum, were compared with the Cyprus example. The knuckle-bone players in the Lycian panel were intended by the artist to indicate misfortune. All the figures were originally coloured, but the colours had, of course, long since faded. Photographs were shown of some stelæ at the British Museum, with representations of a procession of mourners, and then of another example at the British Museum, the "Harpy" tomb, so called because of the harpies who are seen carrying off in their arms—they have no talons—tiny figures typical of human souls. The doorway of the "Harpy" tomb is surmounted by figures of a cow giving suck to her calf, figures that are possibly meant as suggestive of a new life Finer in sentiment, the workmanship of the "Harpy" tomb is inferior to that of the processional stelæ. The next example illustrated was the marble sarcophagus at Constantinople, adorned with centaurs and allegorical sphinxes typifying the mystery of death. In conclusion, the lecturer showed photographs of the fine sarcophagus named after Alexander the Great, although it was not used as the depository of his remains. On the front panel is a battle scene in high relief with Alexander himself taking part in the combat, and on the back a hunting scene. Dr. Murray praised highly the fine work in these reliefs, although there was nothing in them to suggest a new creative spirit.

The sepulchral slabs or columns of the Greeks were the subject of Dr. Murray's second address at the Royal Academy. By way of introductien the lecturer made a few remarks on the symbolism of the stelæ, whose sculptures frequently referred to the past life of the occupants of the tombs, and he told the story from the "Odyssey" of that follower of Ulysses who begged his master to put an oar on his pyre to show that he had been a rower. The lecture was illustrated with lantern screen photographs of typical stelæ, and the first one shown was an example dating from about 700 B.C. In this early stele the modelling of the figures (a man and his wife) was very slight and resembled a relief blocked out but left unfinished. Nor was much better modelling seen in the second example illustrated, the so-called "Warrior of Marathon," which has all the rigidity of form common to archaic Greek art. The "Warrior," said Dr. Murray, though found at Marathon, was of a far earlier date than the battle. The stele of Xanthippos, a later example, has been the subject of some discussion. The seated figure on this stele is shown holding an object in his extended hand that some have taken for a foot and others for a boot, and it is an open question whether the man was a shoemaker or whether he died through some injury to his foot. Another stele, a fine example, of which a photograph was shown, was found at Jersey, in the wine-cellar of a private house, and it is supposed that it was brought to the Channel Islands as ballast by some ship sailing from the East. One of the finest stele known is at the Villa Albani, Rome, a beautiful composition of three figures, Orpheus, Eurydice and Hermes. The story is beautifully told, but the figures lack some of the attributes of the three persons represented Probably the Villa Albani stele is from some private tomb, and a familiar legend has been used to indicate the life of a deceased person. The figures on stelæ are often shown within the portico of a temple, and for long the meaning of this remained obscure. However, it has lately been discovered through a series of pictures on a Greek vase at the British Museum that the portico is intended to suggest the gateway of the lower world Dr. Murray then showed a fragment found some years ago at Athens representing a youth leaning on his staff. It was different from the examples of Greek sculpture already mentioned, and the proportions of the figure and the treatment of the drapery suggested the influence of a Corinthian sculptor, possibly Lysippus. Next came the beautiful stele of Hegeso showing a Greek lady with her maid. It dates from 400 B.C, only a few years after the Parthenon marbles, but the work already shows great changes, perhaps due to the influence of Praxiteles. Even the chair on which the lady sits is indicative in its style of the new movement, and quite unlike the simple seats of the Parthenon. The group shows a fine combination of detail with largeness of style and a most touching sentiment. The stele of Dexileos, a beautiful tribute to a young knight who
was killed in battle, was followed by an example of the lar
class of sepulchral slabs that are adorned with vases, mos
of the amphora shape. In the case of the stele shown on
screen the vase was a bridal one, and indicated that the pers
buried had died unmarried. Parting scenes are the m
common subjects of Greek stelæ, but it should be noticed th
in none of them are there any signs of sadness or beating
breasts. None, that is to say, on the part of the principa
but slaves are sometimes represented in the act of givi
way to grief at the loss of their masters.

In his third address at the Royal Academy Dr. Mur
began by speaking of the way in which some Greek sculpt
ornamented the pedestal of a statue with bas-reliefs illustrati
episodes in the career of the person commemorated. On
screen he showed two panels from the base of a statue of
athlete by Lysippus, showing the athlete wrestling and thr
ing his adversary over his head, and again in the act of kill
a lion The reliefs are in marble, but certain techni
peculiarities show that they are the work of a man accustom
to execute his designs in bronze. Statues of deities had
need of such reliefs, but they existed on the low pedestals
two of the most famous statues of their kind, the Zeus and
Athene. Dr. Murray said that there were no rules as to
height of pedestals, and proceeded to display a statue
Victory on a three-sided pedestal of extreme height.
three-sided pedestal owed its suggestion to the religi
associations of Delphi, where the tripod was regarded as
of the most sacred of forms. The sculptor for his statue
Victory had turned the tripod into the three-sided pedes
The next illustration was of a twisted pillar now in Const
tinople, a pillar which was the base of a monument to celeb
the victory of Platæa, and was inscribed with the names of s
of the fighters. The column of Trajan, with its relief pictures of
emperor's victories, ascending spirally and culminating in
statue on the top, possibly owed its idea to the twisted Plat
column.

Dr. Murray then spoke of the two pedestal slabs at Ath
representing three of the Muses and the contest betw
Marsyas and Apollo. The slabs, which have been attrib
to Praxiteles, were compared with the reliefs on a circ
throne in the British Museum and with the contempo
statue of Artemisia. After criticising and praising the M
and the Apollo and Marsyas, and citing what Pausanias w
about similar works at Athens, Dr. Murray said that there
nothing in the slabs that was inconsistent with Praxiteles
we knew him, and there was no reason why we should
accept them as his work. The type of Roman statuette
which a goddess in her chariot is always represented was
considered, and a photograph was thrown on the screen re
senting Aphrodite drawn by two winged horses. The add
concluded with a description, illustrated by large drawing
the throne or large chair found at the Villa Ludovisi in R
The principal panel is a relief on the back showing two wo
holding a mantle to enwrap another, and supposed to repre
Aphrodite rising from the sea, though there is no suggestio
waves The two side panels of the chair or throne, each re
senting a single female figure, were also shown and conject
made as to their possible connection with the supp
Aphrodite. Dr. Murray examined at some length the styl
the reliefs, which might be really archaic or else the wor
some sculptor in Rome in the days when it was the fashio
imitate archaic art He thought that the probabilities see
to be in favour of the former view.

THE BRITISH EXHIBIT AT ST. LOUIS

A CORRESPONDENT of the *Times* on Wednesday
able to give an anticipation of the character of
British exhibit at St. Louis. The conditions differed f
those of preceding exhibitions, and in consequence the R
Commission have to make novel arrangements.

It was first necessary, says the correspondent, to deter
in what branches of art and industry exhibits should
attempted. It soon became clear that, for many well-unders
reasons, the old-time dependence upon individuals to ma
show of the industrial products of the country could no lo
be trusted. The heavy duties in the United States had gr
ally restricted its markets for the products of British de
and make, while another plea made by the manufactu
interests was that, as they were already very busy, they ha
time to prepare exhibits for show in a country practic
closed to them. Still other interests, which had mainta
American connections, insisted that no effort of this kind c
improve their prospects.

Although for many years the policy of making colle
exhibits of the various industries had been gradually exten
among the continental countries, this had hitherto been fo
impossible of adoption in Great Britain, owing to the stro
tendency towards individualism. It was determined, howe
to make a systematic effort in this direction, and the C

mission early announced its willingness to pay a certain proportion of the transportation charges, to provide show-cases, as well as to supervise installation and to care for exhibits in ransit and while at St. Louis. In general this policy has been uccessfully carried out.

The St. Louis authorities adopted a classification conisting of fifteen departments. The Commission soon reached conclusion that it would ask for the allotment of space in only ten of these, of which the following is a list :—Education, art, liberal arts, varied industries, electricity, transportation, agriculture, mining and mineralogy, social economy and orestry. A total floor space of 191.910 superficial feet was allotted to the Commission. In addition to these exhibits there will be a fair display of horticulture in the garden surrounding he British Pavilion, which is a reproduction of Wren's Orangery at Kensington Palace, and some small allotments of pace are to be occupied by miscellaneous exhibits in one or wo other departments.

In education a very complete exhibit has been made in ach of the eight groups of which it is composed.

The art exhibit will make a more complete and comprehensive showing for every branch and division of British art, ncluding arts and crafts, than has hitherto been attempted at an outside exhibition.

But it is in the liberal arts department, which embraces a great variety of those articles and processes lying in some ndeterminate way between the domains of art and industry, while connected with both, that the success of the Commission has been most conspicuous. The two exhibits which stand out in this department are those of photography and the hemical industries, both being collective in character. The ormer is divided into three parts—the first historical, which is ntirely filled by 300 examples shown by Sir Benjamin Stone, M.P. These will occupy an entire room to themselves. One undred represent historic customs, some of which have surived from pagan times ; another one hundred are devoted to istoric buildings, including Windsor Castle, the Tower, the Abbey, the Houses of Parliament and the Guildhall ; while the emainder reproduce buildings and historic objects or associations in various parts of the kingdom. The second division is evoted to pictorial photography, and has been collected under he direction of Sir William Abney. It comprises 300 xamples of different sizes, and has been brought together by he co-operation of sixty of the best known and most successful amateurs, carefully chosen to represent every quarter of he kingdom. The third division has been organised under he direction of Mr. A. Horsley Hinton, and is devoted to cientific photography, to which twenty exhibitors have conributed another 300 examples.

The chemical exhibit is collective, and represents work carried out by several members of the Commission and other xpert committee assistants. At their head is Dr. Boverton Redwood, who has given most of his time for many months to the task in hand. Ninety-two individuals, firms and companies ave contributed, so that no phase of the industry has been verlooked.

In the group devoted to typography a collection of engravings and prints has been made, six great London firms contributing to swell its proportions. Special attention has been given to its quality under the supervision of Sir Edward Maunde Thompson and his assistants at the Museum. Fifty-five societies, libraries, museums, publishing firms and binders have united to show books, publications and bindings.

Models, plans and designs for public works have been brought together from thirty widely-distributed sources. Perhaps the most interesting, because it illustrates the latest reat triumph in engineering, is that of the Assouan dam, made for the purpose by Sir John Aird & Co. Among other notable eatures are models of a fever hospital by the Glasgow Corporation ; plans and photographs of bridges and irrigation works by the Public Works Department of India ; elaborate plans and models of the new Birmingham water-supply by the ngineer, Mr. James Mansergh ; models of lighthouses by Trinity House and the Commissioners of Irish Lights ; plans or views of docks by the Bombay Port Trust, the Commissioners for Leith Harbour, the London and India Docks Company, the London and South-Western Railway, the Mersey Docks and Harbour Board, and the River Wear Commissioners.

In the department of manufactures the exhibits in cutlery, ilversmith's and goldsmith's ware, leather, hardware, carpets and upholstery goods, glass and crystal and the clothing ndustries are wholly inadequate. It was found next to impossible to interest the manufacturers or dealers in these articles. But the principal failure in this respect has been in he wool and cotton trades. This is the case, too, in spite of he fact that America still remains a good market for English-made textiles in both these materials. On the other hand, the how in silks is a creditable one, while that in flax and linen, although few firms contribute to it, will be very complete, as embracing comprehensive displays from the leading manufacturers engaged in this trade, which, so far as American patronage is concerned, is a large and steady one. There are excellent specimens of fine decorative furniture for both dwellings and offices. Group 45 (ceramics), is another result of collective effort. It includes twenty-four firms engaged in the various branches of the pottery industries. It will be fairly representative of the entire trade. The group representing lace, embroideries and trimmings is one of the most creditable that will find housing in any of the exhibition buildings.

No British machinery will be shown by the Royal Commission at St. Louis.

In the department devoted to electricity the display is small but good in parts. Light, heat and power are conspicuous by their absence, but the use of electricity for electro-galvanising and for making copper tubes and sheets will be illustrated.

In transportation there are no entries, even so much as to indicate that pleasure carriages, ambulances, hearses, carts and waggons for all purposes, or saddlery and harness, have yet been introduced into the United Kingdom. There is not so much as the Irish car, generally so conspicuous as a feature at exhibitions. Effort has been concentrated with considerable success upon Groups 74 and 75, which relate to railways and the mercantile marine. The most prominent exhibits in the first-named group are a joint one by the Great Northern, the North-Eastern and the North British railways, and a separate one by the London and North-Western Railway. Other features show the developments of the English locomotive and various improvements in motive power and rolling stock. It has not, apparently, been possible to secure such co-operation among the railways of the kingdom in making a general exhibit as to command the best results.

It would have been only natural to expect that the automobile industry would be represented. But neither British manufacturers nor British societies have shown an interest in the matter. France will make it a feature.

In mines and metallurgy the Commission have organised a collective exhibit showing the methods and processes employed in mining, to which 205 persons and firms have contributed. It will be very complete, and must attract attention when it is borne in mind that a collection of this character must be transported 4,500 miles. The Department of Agriculture and Technical Instruction in Dublin has sent samples of Irish minerals and building materials ; the Geological Survey has contributed very liberally in maps, diagrams, photographs and models ; while the Survey of India has done its part well. The British South Africa Company sends gold quartz, copper, coal, iron and other minerals, and there are many specimens of British ores and rocks.

Oddly enough, the country most devoted to hunting and outdoor sports does not send enough of its guns or other instruments and tackle to fill more than half a dozen lines in the official catalogue.

In the various groups which make up the department of social economy the Board of Trade, the Local Government Board, the London School of Economics, the Congested Districts Boards of Ireland and Scotland, the Home Office, the Board of Agriculture, the Agricultural Organisation Society, the Post Office Savings Bank, the Registrar of Friendly Societies, the Corporations of Edinburgh, Glasgow and Liverpool, the Guinness Trust, the London County Council, the Charity Organisation Society, Mr. Charles Booth, the Garden Cities Association, Toynbee Hall, the Lunacy Commissioners and the Metropolitan Asylums Board have, among others, contributed exhibits to illustrate the many groups of which it is composed, thus assuring a satisfactory result.

TESSERÆ.

Etrurian Tomb-Paintings.

THE feasts of the dead occupied a prominent place in the funeral rites of the early Romans. The ninth day after the interment the family united in order to partake of a banquet around the tomb ; this was called the *coena novemdialis*, that is, the octave of the dead. A year after and on the succeeding anniversaries the repast was repeated. It brought together the parents and all who still remembered the friend who was no more. Accordingly far-sighted people who desired that their memory should be feasted as long as possible were careful to leave a sum of money for defraying the expense of such festivities. Christianity found these practices so deeply rooted it did not dare to destroy them, and until the time of St. Ambrose congregations met at the tombs of the martyrs at the time of their anniversary, ostensibly for enjoyment. The funeral rites were not, as one would be inclined to assume, a mere concession to vanity, a way of glorifying an important person. They possessed a religious signification of the greatest gravity. The Christian assisting at a service for the dead believed that his prayers would be efficacious in obtaining mercy for the defunct, which was undoubtedly to render a great service. The pagan in celebrating games believed that he was helping the deceased to become a god. Such is the importance of the cult in the old religions that not only is it impossible to allow that there could be a god without worshippers, but we can even believe that the worshipper partook of the divinity of the object of his prayers. The early races willingly admitted that the man who died freed himself from the laws of humanity and became a superior being. The apotheosis made him almost a god, and his divinity would be complete if he received the honour accorded to an immortal. It is easy to see that since the games had this importance, opportunities were offered to artists to introduce some aids to the remembrance of the person honoured on the walls of his tomb.

Subject in Painting.

If there be an art which has the right to represent nothing more than reality without adding anything to do it, and of contenting itself with forms and colours, it is assuredly painting. Colour and form are essentially its own. Moreover the imitation of things is a kind of skill which pleases us, and it often happens that an object on which we do not bestow a remark in daily life amuses us when seen on canvas. Nevertheless, a picture which does not evolve a thought or a moral impression of some sort, which is restricted merely to what it shows, is a work which cannot long attract. Beyond doubt if there are remarkable technical qualities in a painting, it will retain the attention of painters who can admire the unswerving accuracy, or the difficulties conquered, or the successful daring of the brush, in other words the grammar and rhetoric of art. If painters worked only for their *confrères*, such a picture could have great didactic interest; but apart from the qualities of exact accuracy (and here let it be said that they must always be supposed, otherwise it cannot be a picture worthy of the name), it is still necessary that the picture should speak to our intelligence, and that it should not solely address itself to our eyes. The eyes are merely instruments of vision, behind which is a mind seeking for delight, and if it does not find what is sought it will be but a short while before it directs elsewhere those docile servants. The mind is the true master, it is that which must be appeased. It is therefore necessary that there should be something in a picture to offer a hold to the mind, a thought, an intention, a sentiment, or in other words a subject. Many artists will protest against this principle. Some hold that in painting colour and design alone suffice, and that a subject is a weakness, that a picture is not a book, nor a painter a littérateur But some allowance should be made for the weakness of the general public. A gallery of paintings each representing an incident can afford pleasure, while on the contrary no more than a few "symphonies" or "harmonies" can be enjoyed without some respite.

David Roberts as Scene-Painter.

During the long and hard years of his apprenticeship as a house-painter Roberts had one great consolation. Several of his fellow-apprentices were fond of drawing, and one of them, William Kidd, became a clever artist. These apprentices got up a life academy in a dark old house, and had a donkey for a model; and in addition to the donkey, alternately stood as models themselves They seem to have been very happy, these poor lads, in their vigorous pursuit of improvement; and so successfully did they labour that they actually opened an exhibition of pictures, to which young Roberts contributed a large one of "The Battle of Trafalgar." These exhibitions were repeated three or four times, with increasing success. The seven years' apprenticeship ended, Roberts obtained employment as scene-painter to a wandering circus, which added to its other attractions those of a stage for pantomimists. He was engaged for a year at 25*s.* a week, being now about twenty years old. He travelled with the circus, and found that people did not consider that he was living in respectable society. Roberts visited England in this way, seeing Carlisle and Newcastle; and Newcastle had an important influence upon him, for there was good scenery in the theatre, painted by Dixon. Then he saw Hull and York, and though the York theatre was closed, he got access to the scenery, which taught him a lesson in advance of that he had learned in Newcastle. "The act drop was a composition of ruins, and charmed me. The artist, whose name I think was Wallace, excelled in aerial perspective and blent his objects together without showing the hard and accurate lines of Dixon" The Minster, of course, had great effect on a mind naturally sensitive to architectural magnificence, and Roberts made many detailed studies of it, though the snow was on the ground. Returning to Edinburgh next year, Roberts was thrown out of employment by the non-success of his manager, and compelled to go back to house-painting. He worked chiefly at Abercairny, a large mansion near Perth The scenery here charmed him, and he made many drawings, though the time at his disposal must have been exceedingly limited, As a house-painter Roberts seems to have attained more than ordinary skill; his imitations of woods and marbles were especially approved, and he painted the library of Francis Jeffrey dark old oak. Nevertheless, the charms of scene-painting attracted him still, and as soon as an opportunit offered itself, he returned to that branch of the profession—thi time at the Edinburgh Pantheon. The chief scene-painter wa a Mr. Deerlove, an artist and an ingenious man, who coul make paper helmets, banners, &c, such as may still be seen i pantomimes. Deerlove had a very limited capacity for art and, as he was terribly overworked, was glad enough to le Roberts paint as much as he liked. So he painted an entir scene with his own hand, which was a success and led to hi engagement at the Glasgow theatre as principal scene-painte Then he went to Edinburgh in the same capacity. Robert now earned 37*s.* 6*d.* a week, and had lately married. Thi seems to have been a happy time with him. He still worke in the evenings at art, painting often till midnight, by lamp light. He made many sketches at Melrose and Dryburgh which were of use afterwards. Mr. William Barrymore, Drury Lane, visited Edinburgh in 1821, to bring out a Christ mas pantomime, and he appreciated Roberts, advising him go to London, and promising recommendation to managers i the capital. In the following year employment in Edinburg failed, and Roberts remembered Mr. Barrymore and wrote hi a letter, to which he received a reply containing a promise employment. So Roberts "popped himself into a Leit smack," and at once entered on his London career. He wa engaged by Mr. Elliston, at Drury Lane, for a term of thre years, at five guineas a week for the first year and six guinea a week for the succeeding years He found time to pair pictures, too, and joined the Society of British Artists. He an Stanfield worked together at Drury Lane, and a friendshi began between them which lasted through life. The firs picture Roberts exhibited in London was a small one of Dry burgh Abbey, at the British Institution. He also exhibited tw of Melrose Abbey at the first exhibition in Suffolk Street. Thi was in 1824, and in the same year Roberts first visited th Continent and beheld the glories of Rouen—a great event i his artistic experience. His picture of the "West Front Rouen Cathedral" was bought by Sir Felix Booth for eight guineas, and led to commissions from Lord Northwick. In th autumn of 1825 Roberts left Drury Lane for Covent Garder where he received a salary of ten guineas a week for workin six hours a day.

Early Bishoprics in Britain.

There is always a certain incongruity about those late Mediæval foundations which have supplanted early foundatior of much greater celebrity. The feeling exists even within th limits of England It is disappointing at Dorchester—th Oxfordshire Dorchester—to find absolutely nothing to sugge the mighty bishopric whose jurisdiction stretched from th Thames to the Humber. There are plenty of traces of earli and plenty of later times; there are the remains of the Roma city, and there is the church of the Mediæval abbey, but the Bishopric of Birinus and Eadnoth there is no trac whatever. So we may go through Wales without finding, the best of our knowledge, a scrap of church or castle whic could have witnessed even the wars of Harold and Gruffyd Ireland is far richer in remains dating from, or at all even suggestive of, the primitive times before the English Conques On the rock of Cashel the native cathedral and the nati campanile still survive, though embedded in the later work the conquerors, and at Killaloe the small primitive church st remains detached from the later building. So in Scotland, St Andrews and at Dunblane, greater or less traces remain buildings earlier than the present cathedrals, either embodie in the later church or standing distinct at its side. At Ior there is also a detached chapel, which at once suggests those St. Andrews and at Killaloe; but there is nothing whic implies that it has any claims to the same antiquity, so i true parallel may perhaps rather be looked for in the colle chapel at St. Davids. At all events, while the whole historic interest of Iona belongs to one age, the whole architectur interest belongs to another. The present church, mainly the ourteenth century, and with its oldest portions of th twelfth, is the church of the later foundation of Cluniac monk and contains little or nothing to carry us back to the primiti times when Iona was really famous.

Decorated Foliage.

The progress of foliated ornament had been the gradu development of conventional forms derived from the works classic antiquity, till they were brought to a very close r semblance to nature, though without, excepting a few exce tional cases, any direct attempt at imitation. The final step the progression was the adoption of nature herself as the guid and the use of the actual productions of nature as the mat rial from which all ornament was to be derived. There is little inaccuracy in describing these changes as coincident wi those in the architecture, inasmuch as they by no means to place at the same period, the full introduction of windo tracery having taken place in England before that of natur foliage. The use of natural leaves appears first in Frenc buildings. In England, we believe, no earlier instance is known of its extensive use than in Westminster Abbey, where it appears about A.D. 1250 or 1260. Here, however, we have distinct proof of its having been executed by French artists. In the eastern portion of Lincoln Cathedral, fully fifteen years later, we have but few traces of it. At Newstead Abbey, about the same date, we find it in extreme beauty, and in about equal proportions with the conventional foliage; but from the year 1290 we find nature asserting her supremacy to the almost entire exclusion of the conventional forms. Thus at the chapter-house at Southwell, A.D. 1292, we find natural leaves so perfectly copied as to be scarcely distinguishable from casts from the actual leaves. In the monuments to Archbishop Peckham at Canterbury, A.D. 1292, to Bishop de Luda at Ely, A.D. 1298, and Edmund Crouchback at Westminster, A.D. 1295, we have natural foliage in its greatest perfection. At this period there is usually a crispness and sharpness of outline given to the leaves which is peculiarly effective, but in some instances, where the position requires it, there is a peculiar tenderness and delicacy of feeling not exceeded at any other time. This period, viz. A.D. 1290-1300 or 1310, is unquestionably that of the highest perfection of foliated ornament. No natural leaf is excluded from this style, but those we most frequently meet with are the following:—The vine, the oak, the ivy, the maple, the thorn, the vine-leafed briony, the mallow, and a peculiar leaf with pointed raffles, used largely in crocketing and other positions, which was imitated from a humble shrub called the mugwort. When used in mouldings the leaves are placed almost as naturally as if actually growing against and clinging to the stone, though reduced in general to a certain degree of order and uniformity. The capitals have the foliage simply growing round or under the bells, though in foreign examples the peculiar stalk or crocket mentioned in the description of the foregoing style is largely used, each stalk being crowned with an exquisite bunch of natural leaves; this kind of capital may also be seen in Westminster Abbey. The crockets of this period (though the old type is not excluded) are usually of a totally different kind from those of the previous style, being series of single leaves, or groups of leaves perfectly imitated from nature, and growing easily and naturally from the gable moulding. During the later years of the style the foliage assumed a softer and more undulating character and became less true to nature. In the lady chapel at Ely the imitation of natural leaves seems almost relinquished, and the way is prepared for the succeeding style, in which nature is purposely conventionalised till almost lost sight of altogether.

Physical Influences on Egyptian Art.

The art *par excellence* of Egypt is architecture. Besides materials so especially adapted for grandiose structures, nature exemplified everywhere within sight an example of grandeur, simplicity and strength. The noble proportions of the buildings, the beauty of their lines, the stability which mark them, are in such complete harmony with the aspect of the country as to be observed by all travellers. In the vast plains where they are seen to rise, and of which they break the monotony, the temples, pyramids, the gigantic sphinxes, the colossi, are in such perfect accord with the landscape that they cannot even in thought be taken out of their framing. The Egyptian did not confine himself with borrowing from the nature of his country his rigid principles or the long courses of horizontal lines; he was able to draw inspiration for the decoration of his buildings. The rigid trunk of the palm is suggested in the columns; for the lighter supports the slender stems of the great reeds have furnished models; the lotus flower reappears at the base or at the capitals of the columns; the buds and leaves commingle in the ornamentation of the friezes with the tufts of papyrus or the branches of the palm. These picturesque elements, introduced into an art which seems but little adapted to such formal imitations, are presented sometimes as frankly copied, sometimes as freely interpreted, with an astonishing instinct. Egyptian sculpture shows a similar intermixture of adaptation and realism, where the most minute and faithful expression of life is placed side by side with the most abstract and unexpected conceptions. In these symbolic fictions, where animal life is engrafted to some extent on human life, there are types of serene beauty and of extraordinary fancy. The combinations of ideas which guided the artist in his creations, in turn refined and coarse, are those which might be expected from a people possessing such extraordinary theories as to future life, and who, desirous of providing for the necessities of a material existence after death, invented ingenious combinations, as if in that way to solve what was mysterious.

Prehistoric Art.

It was said by Emerson that "all things are engaged in writing their history," and that in nature the self-registration is incessant. From the earliest time man has, with what some will call childish vanity, endeavoured to record his journeys, his combats, his hunting and his victories. Egypt has handed down to us on granite her ancient history; the rocks of Scandinavia still carry representations of the warships of the Vikings; around the Lake of Marvels, near Nice, the rocks show men by means of most primitive lines; the bushmen, considered to be the most degraded of the inhabitants of the globe, have traced on stone with astonishing fidelity various hunting scenes; there are also the "rock-paintings" of New Zealand, ascribed likewise to a barbarous race, but far superior in composition to the attempts of the bushmen. These are undoubtedly remarkable facts, but they are isolated, while in the two Americas the number of pictographs and the vast space which they cover give to them exceptional importance. The desire, not only of recording the events which struck them, but also of stating their meaning by conventional signs, by graphical experiments, often by hieroglyphics, by real phonetic or symbolic characters, is one of the most remarkable traits of the various races which succeeded one another on the new continent. Although the initial date of the representations is unknown, we can at least affirm that their execution continued during long centuries, and that if the oldest go back to remote periods in certain particulars these historic designs have only just preceded the advent of the Europeans. The pictographs especially abound in the regions which formerly constituted Spanish America. For example, twenty miles to the south of Benton, in California, the road passes through a narrow defile enclosed on its two sides by perpendicular rocks. These walls of stone are covered with representations of which neither the origin nor the date is known, nor to what race these primitive artists belonged. One thing only is certain, and that is that neither the Pah-Utes who occupied the district, nor the Shawnees, who camped near Columbus, in Nevada, attempted to attribute their origin to their ancestors, and that they regard the work as anterior to their arrival in the country.

The Mediæval Castles.

During the Romanesque and Gothic periods the castle was a miniature town, with its own fortified *enceinte*, composed of walls reinforced by towers which served as refuges at various points of the circumference, and formed so many reducts for the arrest of assailants. The keep was the citadel of this miniature town, the temporary lodging of the lord whose vassals lived in the internal offices, and whose soldiers occupied the gatehouse buildings and the towers of the ramparts. The noble sought to give his special habitation the most formidable aspect possible, and thereby to strike terror to the beholder, a very necessary device in those days of conflict, when the friend of night was often the implacable foe of morning. In times of peace the keep was the receptacle for the treasure, arms and archives of the family. But the lord did not lodge there; he only took up his quarters in the keep with his wife and children in time of war. As it was not possible for him to defend the place alone he surrounded himself with a band of the most devoted of his followers, who shared his dwelling. From thence he exercised a scrupulous surveillance over the garrison and its approaches, for the keep was always placed at the most vulnerable point of the fortress, and he and his bodyguard held the horde of vassals and retainers in due subservience. As they were able to pass in and out at all hours by secret and well-guarded passages, the garrison was kept in ignorance of the exact means of defence, the lord, as was natural, doing all in his power to make them appear formidable. Castles and keeps of stone were generally built upon the natural scarp of some spur commanding two valleys and near the banks of a river. The primitive mounds of the feudal fortresses were abandoned. These were in many cases artificial, and would have been quite inadequate to the support of the huge masses of masonry of the new architecture.

NEW ENCLOSURE IN HYDE PARK.

THE new enclosure in Hyde Park is being formed by the Office of Works, and will contain plant-houses and forcing-frames for the plants required for the service of the royal parks in place of those now in use, which stand in Kensington Gardens and spoil the architectural effect of the Palace and of Wren's Orangery. Some of the existing houses are in bad condition, and it is essential that they should be renewed. There has always been a service yard in Hyde Park, and the same spot was considered to be a far more suitable and central position for plant-houses for the parks. It was therefore determined to remove the plant and frame ground altogether to Hyde Park by an enlargement of the existing service yard. The work is specially provided for in the Vote for Royal Parks, the first instalment of the cost having been passed in May last. The area now occupied by the houses and frames in Kensington Gardens will, when vacated, be laid out as an ornamental garden. Substantially the public will gain three acres of lawns and flower-beds in exchange for about an equal area of grassland taken into the new frame ground. When the works are all finished and the plantations grown there will be also a gain in picturesque effect both in Hyde Park and Kensington Gardens.

Correspondence

[*The Editor does not hold himself responsible for opinions expressed by the writers.*]

Waltham Abbey Tower Restoration.

SIR,—I think, and hope, the profession will issue a strong protest against the idea that has been mooted of *adding pinnacles* to the top of the tower of Waltham Abbey Church at its approaching restoration. Those who do not know the tower from personal inspection should see the Breweresque illustration of it in the *Daily Graphic* of December 7, 1903. Pinnacles were not there when the old print was made which is reproduced in "Abbeys Around London;" and it would be a pity (to put it mildly) to destroy the character and the traditional aspect of the tower by a "finish" that would be finnikin at best.

I sincerely hope no such "restoration" is in view as has been perpetrated at St. Peter's Church, St. Albans, which is no more like its former self than is the "wheel-windowed" transept in the abbey of that town to what we deplore the loss of there.—Yours faithfully, JOHN A. RANDOLPH.

Chicago Theatres.

SIR,—In the issue of February 12 of your valuable journal I observe on page 116 you give under the heading "Chicago Theatres" the report of a commission inaugurated by the *Chicago Daily Tribune* to investigate the different theatres and other places of amusement in that city, and to ascertain how far the building ordinances were observed for safety from fire. The gentlemen thus commissioned, all well known as able and practical in their different spheres, have drawn up a list of items of recommendation for the object in view. Among these the second and fifteenth appeal to me as specially interesting, as I am holder of letters patent for the water or fire curtain recommended, both in England and the United States.

I beg to enclose you a copy of my pamphlet: it may prove interesting to you.

The said commission occupied themselves exclusively with theatres, but as you will see from my pamphlet, the curtain can be used for preventing the spread of fire both inside and outside any building. The modern structures for public buildings, warehouses, dwelling-houses and factories are nowadays mostly composed of what is called fireproof material, but if exposed to heavy heat and flame from a neighbouring conflagration, experience has shown that immunity from fire has seldom or ever held good, and the recent fire at Baltimore is a case in point.

Fireproof in the literal meaning of the word does not exist, and if the walls and roof of a building are constructed of fire-resisting material, the glass in the windows will always prove to be the vulnerable point of the structure, and will give way when exposed to heat, or water is thrown against them by the fire-hose; the fire gains access, the contents ignite, and the edifice, attacked from without and within by fire, crumbles to the ground in spite of all its fireproof character. To save the glass is, in these cases, to save the building. Modern structures of the character of workshops, factories, &c., require as much light and air as possible; glass and ventilators are required and form proportionately large areas of the walls; danger and jeopardy in case of fire in the neighbourhood is enhanced. A sail or curtain of the kind recommended by the commission, if properly applied to such a building, would give comparative safety. The fire hose would saturate the curtain without breaking a single pane of glass, thus leaving the structure intact. As a jumping sheet, I should say the curtain would also prove as good as any now in use. It is fixed all along the burning house by the dog-hooks that bear four-fifths of the weight of a person descending into it, as it forms an angle of 45 degrees when in position

Some years ago at Philadelphia a fire occurred in a large warehouse full of workpeople The first and second floors were first attacked, and dense smoke issued from the lower windows. The stairs were impassable for the unfortunate people on the upper floors, and they had to jump from the windows for their lives. Jumping sheets or nets were spread for them, but the dense smoke prevented them from seeing the means of safety held out to them, nor could those who handled the nets see those in danger, with the result that, when forced to jump, most of them missed the nets and were killed on the pavement The jumping sheet, formed of the material of which the curtain is made, would have been stretched along the full length of the building, and no one could have missed it in jumping from the upper floors. It is with keen interest that I, through the means of your valuable journal, see the report of experts commissioned by the enterprising *Chicago Daily Tribune*, a press organ so enterprising and public spirited, and hope through its efforts that the means to prevent the sp of fire, by the fire or water curtain, may be inaugurated brought to public notice.—Yours faithfully,

R BUGGÉ,
Member of the British Fi
Prevention Committee.

GENERAL.

Lord Curzon has given to the Indian Museum, Calcut representation of the unique North India carpet presente 1634 to the Girdlers' Company by Robert Bell, one of the directors of the East India Company, the value of w remained unsuspected until a few years ago, when the ca was cleaned, repaired and framed.

The Dean and Chapter of St. Patrick's Cathe Dublin, have placed in the north choir aisle a marble ta expressive of their gratitude to Lord Iveagh for his genero by which the choir was rescued from destruction and cathedral provided with an organ.

The French Government statistics show that the abol of the congregational schools will involve an expenditur 64,000,000 francs for building and enlarging school premis

The Leeds Church Extension Society state that in years 90,000*l.* has been subscribed for the building and end ment of churches in the city. A further sum of 60,000*l.* be raised, in addition to fresh annual subscriptions.

The Bronze Equestrian Statue to be erected in Adel as the national memorial to the South Australian soldiers fell in South Africa is being cast at Thames Ditton. sculptor is Mr. Adrian Jones, who shows in heroic proport a mounted Australian scout. The statue will be placed im diately before Government House. The pedestal will b native stone.

M. Jose Frappa, the French painter, died last weel Paris. He was a pupil of Pils, and made his *début* at Salon of 1876 with "La Main Chaude." In 1880 he exhib "Les Derniers Moments de Saint François d'Assise," an 1902 a portrait of Cardinal Gibbons. His most character works were representations of ecclesiastics in brill costumes.

The New Iron Bridge over the Thames at Sonning opened on Saturday. The proposal to erect it as a substi for an old masonry bridge gave rise to controversy.

Sir Alfred Thomas, M.P., says the contract for erection of the new buildings of the University College Monmouthshire is likely to be let in the course of the year.

The School of Engineering at the University of Syd has received a further donation of 50,000*l.*, making 100,000 all, from Mr P. N. Russell, who founded the school in 1 and who carried out extensive engineering works in Syd but now resides in London.

Mr. Henry Holloway and Colonel Stanley Bird, (London Master Builders' Association), were among witnesses on the 18th inst. before the Workmen's Compe tion committee.

A Retrospective Exhibition of objets d'art is to be shortly in St. Petersburg under the patronage of the Czar for the benefit of the Russians wounded in the Far East. greater part of the exhibition will be loaned by private lectors.

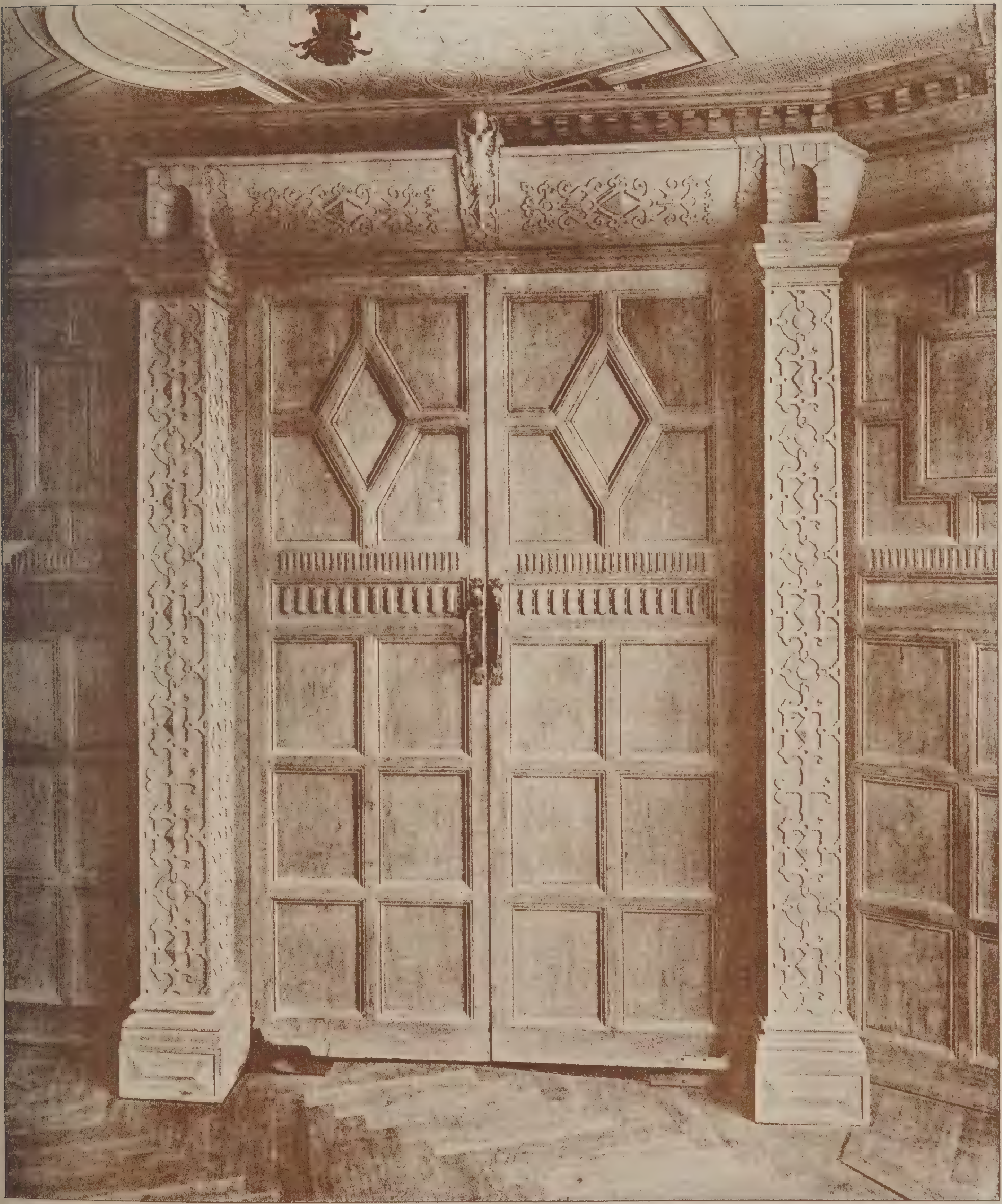
M. Gabriel Ferrier has been proposed as a professo painting at the Ecole Nationale des Beaux-arts, in the plac the late M. Gérôme.

The Directors of the Salvation Army have obtained permission of the London County Council to utilise a portio the Council's cleared land between the eastern branc Aldwych and the Strand for the erection of a temporary b ing for the international congress to be held from June 2 July 15. The site will be required for about ten weeks May 9, and 300*l.* will be paid for the privilege. The buil is to be of a design to be approved by the Council, and i comply with any requirements of the London Building Act

The London County Council have been making ste progress with the preparation of the ownership section of ground plan of London. Up to the present time 13,063 est have been delineated on the sheets, covering an are 99 square miles out of the total area of 121 square miles. expenditure has amounted to 6,210*l.*, leaving a balanc 1,600*l.* out of the sum already voted. The work will be tinued.

St. Edmund's College, Old Hall, Ware, is to be enla for the accommodation of students preparing for the Ro Catholic priesthood. A new wing is to be built for accommodation of fifty theological students, and a ch added to the college church from designs of Mr. F. Walter

The Architect, Feb: 26th 1904



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DOORWAY IN WINDOW WOODWORK AND PANELLING.

Designed by E. L. LUTYENS.

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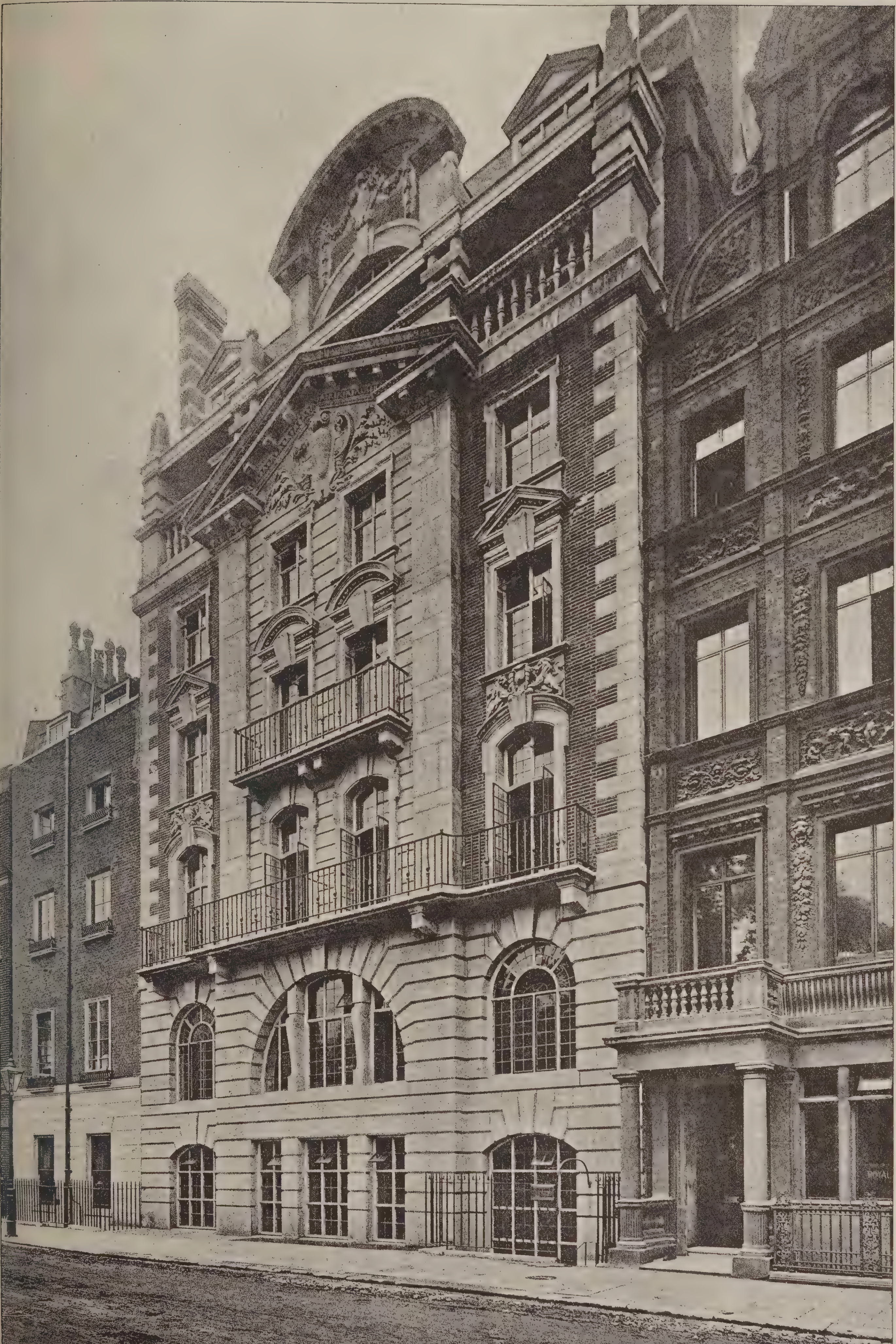

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WILKINSON'S SWORD COMPANY'S PREMISES, ST. JAMES'S SQUARE.

ALFRED WILLIAMS, Architect.

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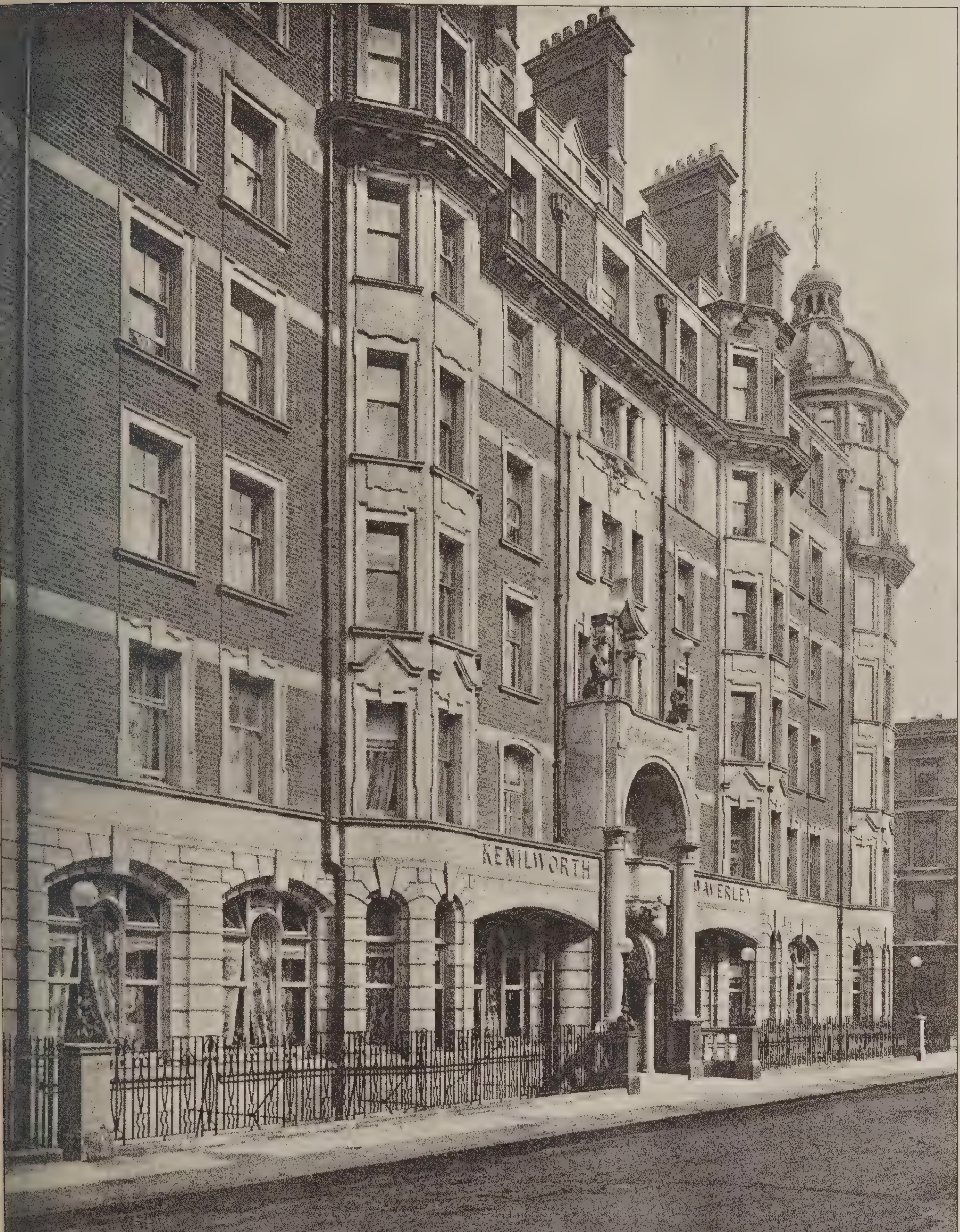

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CRANSTON'S HOTEL.

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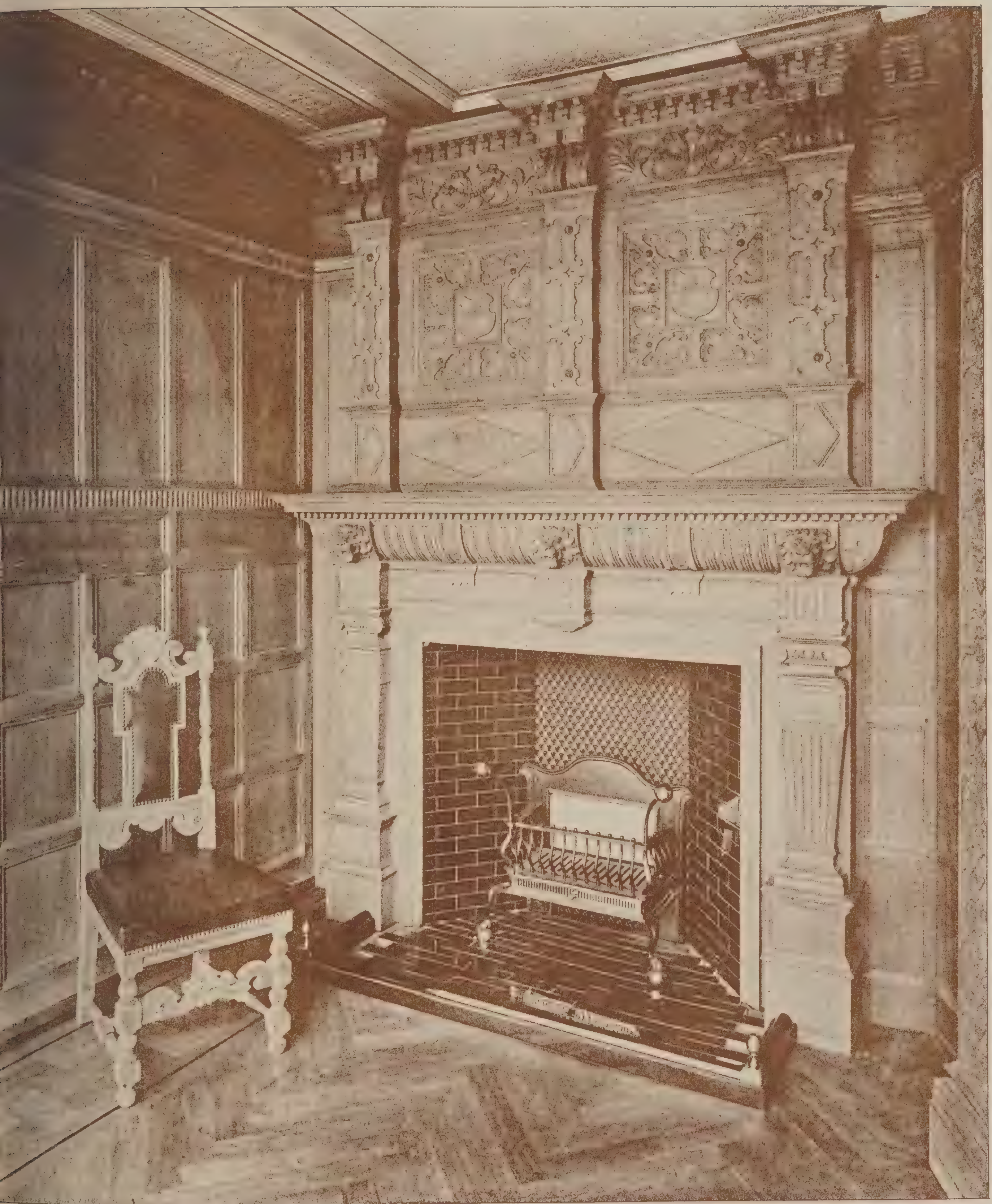

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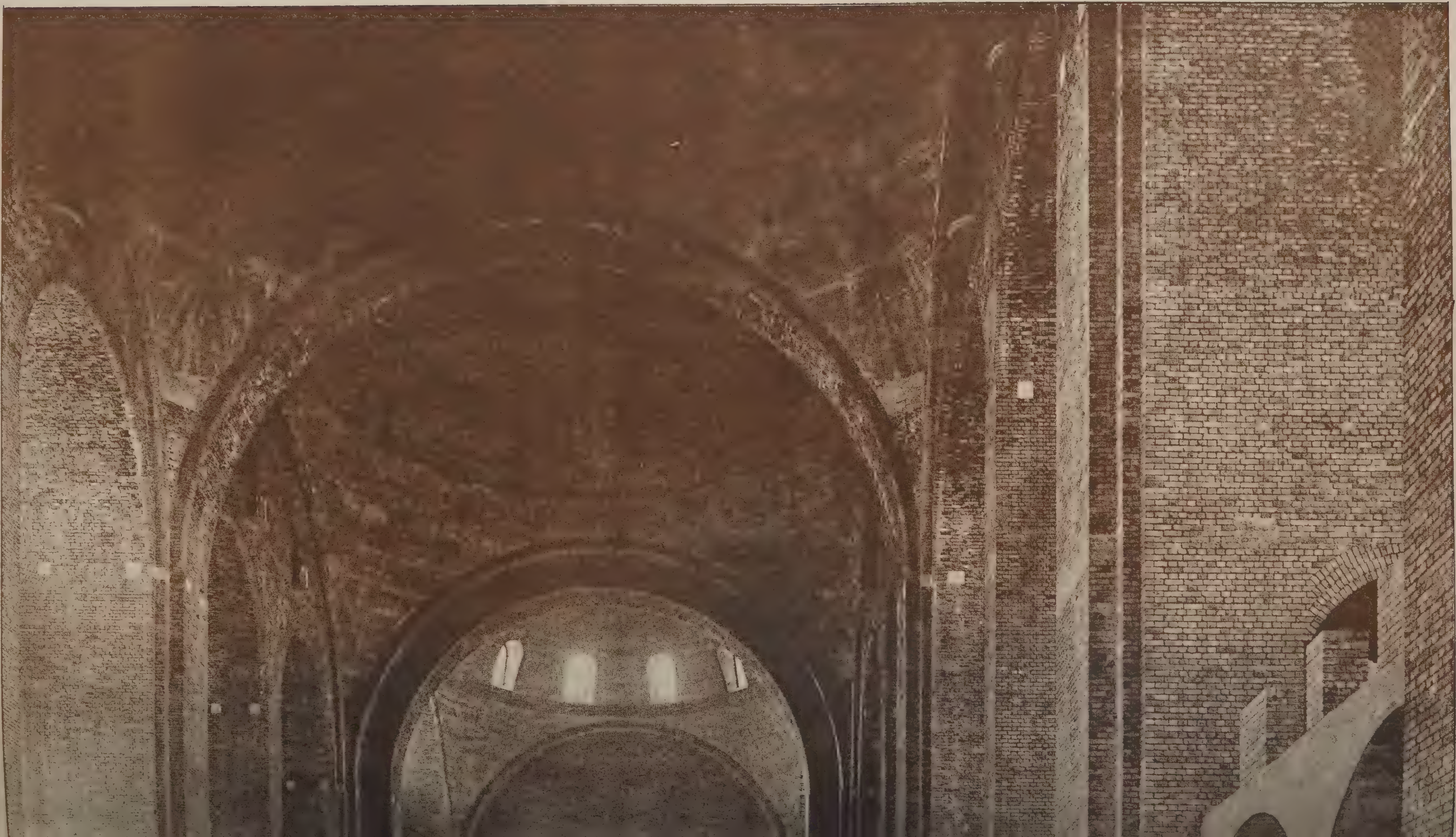
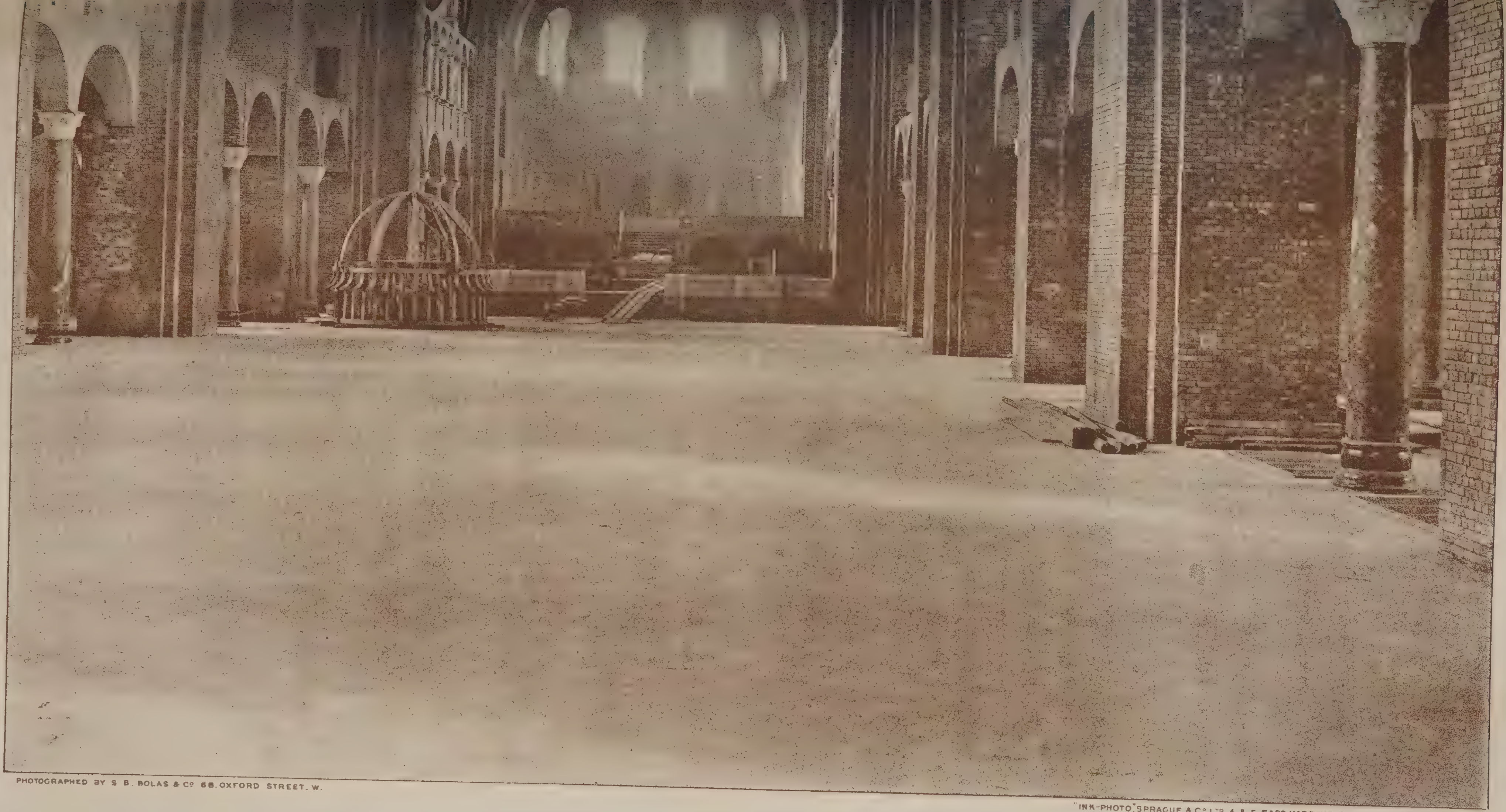
FIRE-PLACE IN WINDOW WOODWORK AND PANELLING.

Designed by E. L. LUTYENS.

The Architect. Feb. 26th 1904





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ROMAN CATHOLIC CATHEDRAL, WESTMINSTER: NAVE, LOOKING SOUTH.

The late J. F. BENTLEY, Architect

The Architect.

THE WEEK.

A SPECIAL meeting of the Royal Institute of British Architects was held on Monday last. Mr. ASTON WEBB, R.A., presided. Approval was given of the proposal to present the gold medal to M. AUGUSTE CHOISY. It was resolved that the necessary alterations to the by-laws be drafted and submitted to a special general meeting, to provide that after December 1, 1906, every person desiring to be admitted a Fellow shall be required to have passed the examination or examinations qualifying him as an Associate, or shall be elected from the ranks of the Associates, but that, in exceptional circumstances, the Council shall have power to dispense with such examination or examinations. Further, that during the intervening period every architect eligible under the charter for election who desires to join the Institute as a Fellow should be encouraged to do so. The following amendments of the suggestions for the conduct of competitions were approved. Clause 2 to read as follows:—"To draw up the particulars and conditions (as far as possible in accordance with the principles herein set forth) as instructions to competitors, and also to advise upon the question of cost and the amount and apportionment of the premium or premiums. Note.—In drawing up the instructions it is desirable to divide them into two distinct classes:—(i.) Conditions, *i.e.* those which must be strictly adhered to; (ii.) Suggestions, *i.e.* those which are merely optional or of a suggestive character." Clause 7: Delete entirely. Renumber clauses 8, 9, 10, 11 as 7, 8, 9, 10 respectively. Clause 12: Delete all first paragraph and renumber the second paragraph beginning "It is essential . ." as clause 11. Add the following clause as the new clause 12:—"The author of the design placed first by the assessor or assessors should be employed to carry out the work, and he should be paid in accordance with the schedule of professional practice as to the charges of architects sanctioned and published by the Royal Institute. If no instructions are given to him to proceed within welve months from the date of selection, or if the proposed works are abandoned by the promoters, then the selected architect should receive payment for his services in connection with the preparation of the competition drawings of sum equal to 1¼ per cent. on the amount of the estimated xpenditure."

Two or three months ago the lessees and managers of heatres in England were accepted by playgoers as if they were victims to official fads. The Chicago catastrophe has rought about a change in most parts of the world. In England especially there has been a revulsion of feeling. The Lord Chamberlain's department and the local authorities have been recognised as the guardians of the afety of spectators. It is doubtful whether at the present me a more stringent code than was ever devised, if nnounced in a proper manner, would not be insisted on by he British public. Managers have only to submit. On Tuesday it was stated at a meeting of the London County Council that a revised code of regulations had been adopted and was approved by the Lord Chamberlain. They will not involve the lessees or owners of theatres in ery great expense. Indeed, the principal objection to them that in future an audience can hardly help feeling that eath is very close. Among the regulations are the following:—All exit doors must be thrown open for the use of the udience at the end of the performance. Persons must not be permitted to stand or sit in any of the gangways. Overcrowding must not be permitted in any part of the remises. Each exit door from the auditorium and stage must have a distinctive light fitted over it. All exit doors must have a notice clearly painted on them indicating the method of opening them. Where practicable broad conpicuous lines at shoulder level, with frequent arrows ndicating the way out, must be painted on the walls in l the corridors and exits leading to the street. All check oxes must be recessed or removed. Where there is a fire-resisting screen to the proscenium opening it must be lowered at least once about the middle of the performance in the presence of the audience, so as to insure its being in proper working order. All scenery, wings, sky borders, cloths, draperies, gauze cloths, floral decorations, properties, hangings, curtains, &c., whether on the stage, in the auditorium or in other parts of the premises, must be rendered and maintained non-inflammable. A sufficient number of employés must have definite duties allotted to them in the event of fire or panic, and statements of such duties must be posted up in conspicuous positions. Fire drills must be held at least once a week in all theatres, music-halls and large concert-halls. It will be observed that none of the defects can be attributed to unsuitable construction.

THE Municipal Council of Paris is one of the strongest governmental bodies to be found in Europe. It exercises so stringent an authority over its contractors, the members might be pardoned if they imagined that their resolutions were above the enactments of the Chamber or the Senate House. It was recently established, however, that in dealing with contractors the Council possessed no more privileges than an ordinary individual who enters into a contract to have work executed. The action which established this important fact related to the improvement of the Bièvre, the small river near the Gobelins, which is unknown to the majority of Parisians. A contract was arranged between the Council and M. CATTIN for carrying out certain works which were difficult to accomplish. The scene of operations is extremely limited, and the Council, we suppose, apprehended that actions might arise if the materials were cast about regardless of the rights of the people having property adjoining the Bièvre. It was therefore demanded that the contractor should take the precaution to employ temporary shields or "bouchers." As there was no provision for such a defence on the contract deed M. CATTIN refused to undergo the expense of adopting it. The Council then put forth its autocratic power, and endeavoured to carry out the works according to its own interpretation of the contract at M. CATTIN's expense. He invoked the aid of the Conseil de Préfecture, sought to have the dispute submitted to arbitration, and claimed 1,200,000 frs. damages. The decision was in his favour on all points, and experts are to undertake to assess the amount of damages sustained by him.

JOHNSON defined a lexicographer as "a writer of dictionaries; a harmless drudge that busies himself in tracing the original and detailing the signification of words." JOHNSON knew by sad experience the extent of the appreciation which servants of literature like himself had to encounter. But without the labours of such men it is difficult to understand how everyday life could be conducted. In the law courts difficulties are constantly arising which can only be removed by consulting a dictionary. The need of an authority becomes more remarkable whenever technical terms are involved. A few years ago, owing to the indefiniteness of the meanings, one of the Royal Commissions on Labour found it necessary to have a special technical dictionary compiled. It was only intended to serve as a clue to the meaning of words employed by the special witnesses, and its utility therefore is most limited. The "Handbook of Technical Terms used in Architecture and Building and their Allied Trades and Subjects," by Mr. A. C. PASSMORE (London: SCOTT, GREENWOOD & Co.), is adapted for more general use. There are 380 closely-printed pages. It is needless to say that to occupy so large a space many terms have to be included which are no longer in daily use, but in a dictionary very remote contingencies have to be recognised. Mr. PASSMORE does not claim to be more than a compiler, but he has performed his work, as far as we have tested it, thoroughly and accurately. With technical terms especially the need of diagrams is not easily got over, but, apart from their expense, their introduction would make the book too cumbrous.

AN IMPERIAL METRIC SYSTEM OF WEIGHTS AND MEASURES.

IN 1902 there was a conference of colonial Premiers held in London. The object was to indicate the new relations which were likely to be entered into between Great Britain and the various Colonies. Science, it has been said, is measurement, and commerce is also bound in the same way. Unless there are extremely definite weights and measures, lawsuits are likely to arise which afford opportunities to rivals in trade to ingratiate themselves with local traders. The following important resolution was adopted:—"That it is desirable to adopt the metric system of weights and measures for use within the Empire, and the Prime Ministers urge the Governments represented at this conference to give consideration to the question of its early adoption."

Copies were sent to the different Colonies. It is possible to receive a message that has gone round the world in a remarkably short space of time. But it required about eighteen months to obtain and arrange the replies. As a great many varieties of official business must be transacted through the post, it is only fair to assume that communication between England and the Colonies cannot be expedited on more favourable conditions. We should therefore conclude that with so vast an Empire, wherein Parliamentary procedure is respected, we must always allow for more than a year's delay before it can be said the Colonies have arrived at a decision. Amateur statesmen who for several months have been excited with the idea that it is only necessary to draft a Parliamentary Bill, to rush it through the Lords and Commons to obtain the King's signature in order to convert the Bill into an Act, will do well to ponder over the replies sent to the Colonial Office. The subject of the resolution was of the simplest. In order to save time the metric system as it relates to weights and measures was alone mentioned, and to prevent delay all questions relating to currency were rigidly excluded. Now the returns from the different Colonies show that they are far from being unanimous on the question. From a comparison of the various replies forwarded by nearly fifty Colonies, the following conclusions will represent their state of opinion.

The metric system is already used in Mauritius and Seychelles. The following are favourable to its adoption:—Australia, New Zealand, Cape of Good Hope, Transvaal, Orange River Colony, Southern Rhodesia, Gambia, Northern Nigeria, Gibraltar, British Guiana, Trinidad, Leeward Islands, Windward Islands. Also, with a reservation that it must also be adopted in the United Kingdom, or in the Empire generally, Sierra Leone, Southern Nigeria, Ceylon and Falklands. Hong Kong would take common action with other Colonies. The States of New South Wales, Victoria and Western Australia are also favourable, but together with South Australia and Tasmania consider that the matter is one for the Commonwealth Government. Fiji is doubtful, but must follow Australia and New Zealand. British New Guinea would go with Australia. Jamaica and British Honduras need the adoption of the system in the United States of America. The practice of India is important to the Straits Settlements, who would be followed by Labuan, and the Bechuanaland Protectorate would follow the rest of South Africa. St. Helena, Cyprus, Lagos, Weihaiwei, Barbados and Bahamas are on the whole unfavourable. The Gold Coast Colony and the State of Queensland are prepared to adoptthe system, but consider that inconvenience would occur. Natal cannot consider the matter until some general lines of legislation have been agreed upon by His Majesty's Government. No definite answer has been given by Newfoundland, Malta or Bermuda. Canada has not yet replied. The metric system, although of great importance, can be treated as almost an abstraction if compared with other matters in which the issues are more grave, for they may relate to a universal war. Whether pounds or kilogrammes, metres or yards, feet or centimetres, hectares or acres are employed, would seem to be questions of which the dry light of intellect could take cognisance without any exhibition of heat.

As a rule, it will be found the Governors wish to cast responsibility upon their Ministers. The Ministers of Tasmania are not eager to initiate legislation on the subject, and they believe the change should be carried out by legislation in the Federal Parliament. The Surveyor-General of South Australia has reported in favour of the metric system; but it is pointed out it would be useless for one single State to adopt the system. In Natal there is likewise a desire that the initiative should be with the Imperial Parliament. The Secretary of the Law Department in Natal wrote:—"A separate Natal Act would have to be complete in itself, and the subject, as it appears to me, will require a great deal of development before such an Act could be passed and brought into force. Not only must the standards be chosen, but the measures of length, weight and capacity will have to be made and placed in safe keeping. The question whether the use of the metric system is to be optional or compulsory is an important one. If optional, it will probably never be adopted in practice because of the trouble involved. If compulsory, some time must be allowed to enable the system to become understood and preparations to be made. Our surveys, diagrams and titles are all made upon the English systems, so are the weights and measures in common use and enforced by municipal or other laws."

Observations of that kind are desirable, for it is better to have some foresight of what must be overcome before a new system of weights and measures can be brought into operation, than to take it for granted that what is needed is simply goodwill and all difficulties will vanish like magic.

Another remark which springs from experience is that of Sir M. NATHAN, the Governor of the Gold Coast. He says:—"If merchants in England do not make out their invoices in metrical weights and measures, then the Customs will have to convert every weight and measurement on which specific duties are levied into kilogrammes, litres, &c., before the duties can be assessed. There will be considerable liability to mistakes, especially at first, and of course some increase to the work of the Department, which will involve some increase in the expenditure on it."

According to the same authority, "The Public Works Department will suffer inconvenience for a time by having to work by both the old and new systems. All record plans and documents of lands and buildings of course have measurements of area and lengths in acres, roods, perches, miles, yards, feet, inches, &c. New records would be made with hectares, ares, centiares, kilometres, metres, centimetres, &c. Some difficulties may be experienced by the Crown agents in getting English contractors to work in accordance with plans and designs drawn out with decimal measurements. The local staff would take some time to get into the new system. Even the familiar 50-feet tape and 2-feet rule would have to be exchanged for a 20-metre tape and 50-centimetre rule." He cannot close his eyes to the fact that the Customs staff will have to be increased, and there will be new standards at all Customs stations, and new surveying and drawing measuring instruments, such as chains, tapes, levelling staves, scales, rules, &c., in the Public Works, Railway and Survey Departments.

One of the most eager advocates of the metric system appears to be the Commonwealth of Australia, of which Lord TENNYSON is Governor-General. It is reported that "the Parliament of the Commonwealth of Australia is of opinion that the adoption of the decimal system of weights and measures, now in use in France and other countries of Europe, and commonly known as the metric system, is a most desirable national reform; that it would economise time and money in professional, trading and mechanical operations, secure a far higher degree of national education without increased cost, and would avoid the impending danger of serious loss in the Empire's trade through the differences existing between our standards and those of a majority of the civilised nations of the world." In Western Australia the Minister of Education has already commenced making provision for teaching the metric system in the schools. Among the communications is one from Mr. WATTS, the analyst for the Leeward Islands. He is of a sanguine disposition, and believes that within a year all inconvenience which must necessarily attend the period of transition will have disappeared. There is also the following opinion from Governor Sir GEORGE WHITE at Gibraltar:—"As the business of Gibraltar is principally connected with Spain and Morocco, where the metric system of weights and measures is in operation, the introduction of that system into Gibraltar would greatly facilitate commercial transactions, and be of the greatest advantage to the trade of the town." The Acting-Governor at St. Helena supports the recommendation that a system of education should be at once adopted. It is suggested that in St. Helena the following course would be the best:—"A term of five or seven years, during which the metric system should be taught compulsorily at all schools by those thoroughly acquainted with it, both theoretically and practically. To be followed by a term of one or two years during which those engaged in trade might be allowed the option of using either system. If not *ultra vires*, the establishment of evening instruction classes, at which those desirous might acquaint themselves with the system."

It is unnecessary that we should present any more extracts on this important question. Undoubtedly difficulties stand in the way. But it is not to be expected that a great Government measure can be realised without controversies, experiments and investigations. A widespread belief exists that the metric system would facilitate commercial transactions, especially among traders who have been brought up to employ it. We anticipated much more general opposition, but it is now evident that the British people throughout the world are beginning to realise what an important influence weights and measures can exercise. No doubt there are foreign traders whose main desire is to obtain an excess of value for their money, and they will incline towards the English or metric system according as they believe in one or the other they get the greater weight, length or capacity.

THE REPORT OF THE ECCLESIASTICAL COMMISSIONERS.

THE Ecclesiastical Commissioners have acquired a reputation for the profitable management of property. A revenue which sometimes exceeds one and a half millions a year needs care in the arrangements for obtaining the money, as well as for its distribution. It has not always happened that the Commissioners have received recognition of the success of their measures. The outlay, for example, on the pride and pomp of episcopal palaces caused at one time much dissatisfaction. But laymen are sometimes incapable of judging of a policy which has to consider the future in addition to the present state of the English Church. In the management of the property producing the income of the Commissioners there can be no doubt of the exercise of extraordinary care and watchfulness, otherwise it would be impossible to present satisfactory statements year after year.

On this account the report is commonly accepted as a document from which agents, surveyors and managers of property have much to learn. The influence of the Commissioners is not confined to their immediate tenants, but extends to those who endeavour, as far as they can with safety to follow the practice of the department. The value of the property which yields the greater part of the revenue is derived from rent of lands, rents of house property in London and suburbs, ground-rents, tithe and other charges, mining royalties, &c. In dealing with so large a class of persons the Commissioners ought to endeavour to act as model landlords, and their practice should not always be considered as remarkable for grasping and absolutism. When, for instance, the London County Council was blamed for the hard conditions of the leases which deterred people from taking the building plots on the new sites near the Strand, the Council could reply that their conditions were generous if compared with those of the Ecclesiastical Commissioners. The excuse did not serve and it was enough to excite discontent. An ordinary company, tontine society or syndicate, like a private individual, could be excused for looking on the question of the letting of property from the point of view of profit alone. But a body like the Ecclesiastical Commissioners will always be expected to have regard for a lessee's interest as well as for a vendor's, and to strike a fair balance between them. More general questions should also be considered. The treatment of the property close to Westminster Abbey, which excited some commotion a few months since, was not of the kind which had been anticipated. No doubt the rearrangement of the property was inspired solely by a worldly-wise policy. But remembering how little is done to enhance the interests of historical buildings by those who deal with the land in the vicinity, an opportunity was afforded to the Commissioners to give an example of the spirit in which alterations should be made, and by which the least amount of damage would arise to such a memorial as Westminster Abbey.

The criticism exercised has not been entirely fruitless. As if in a spirit of reaction, the Commissioners have preferred to erect small houses and cottages for occupation within the Metropolis rather than the colossal model dwellings favoured by other owners. The New Cut district in Lambeth, which some investigators of London life used to describe as more typical than St. Giles's, will soon present an appearance which thirty years ago would not have been anticipated. Not only will there be tenement houses to be let in suites of two and three rooms, but there will be several five-room and four-room cottages. A more noteworthy case is about to be undertaken. Having secured possession of an estate in Walworth, the Commissioners are laying it out mainly in cottages and small flats. The expenditure is likely to exceed 200,000*l*., and so closely have the rents been cut down it is doubtful whether a profit of 4 per cent. will be obtainable. But in spite of the claims made upon their income the Commissioners can occasionally afford to be generous, and this is one of the cases in which financial sacrifice will not be disadvantageous to their general practice. In order to diminish the friction arising in a great many improved properties when rents are applied for, it has been decided that the rent-collectors are to be selected from the assistants of Miss Octavia Hill. The Commissioners are not likely to suffer by the change.

APPRECIATION OF BUILDINGS.*

IT is recorded that Dion Chrysostom, a rhetorician who was attached to the Roman emperors of his time, delivered an oration in Olympia in front of the statue of Zeus, in which he discoursed on the masterpiece of Phidias. The incident is interesting for many reasons. It suggests, in the first place, that the Greeks with all their cleverness were not able to grasp immediately the entire characteristics of a great work of art. They needed the aid of philosophers in order to attain that power of seeing which is mainly prompted by the mind. The Greeks, like other peoples of antiquity, were apt to recognise two varieties of knowledge, an esoteric and exoteric, and presumably in each there were several degrees which had to be regularly gone through by students. The Olympian Zeus was said to have offered something new to religion. What that something was would not be likely to be comprehended by the crowd at a glance. The accounts which we have received of the statue fail to indicate how far Phidias had advanced beyond his contemporaries. The earlier seated figures were not remarkable for beauty, if we may judge from the existing examples. Probably Dion had to show the successive steps necessarily followed before such a masterpiece could be created.

If, instead of making a statue the subject of his discourse, Dion had substituted a temple like the Parthenon or one of those at Olympia, he would have a still wider field for revelation and speculation. The Phidian statue presented figures of Victories, Hours or Seasons, Graces, and many others associated with legends which it might be supposed were sufficiently expressive of the sculptor's motive. With a temple, on the contrary, it would be necessary to explain why lines which appeared straight were in reality a series of curves, horizontal as well as vertical lines being therefore delusions. In our time the reports of the investigators of the Parthenon would fill many volumes. What must it have been in the first century, before the building had lost all its freshness? It is only by slow experimenting we have arrived at a knowledge of the subtleties of Greek architecture, and it is possible much more could be said by Dion than by any of the English or French inquirers. Who can tell whether the grounds on which the Parthenon was admired were not entirely different from those which win favour for the ruins in the present day? If we possessed a full account of the proceedings we might discover that other rhetoricians rejected the theory of DION. It seems so easy to discover defects in any work produced by man's hand, we cannot believe that the Greeks deprived themselves of the pleasure. They were strong in analysis, and yet may have found it difficult to determine for what reason they admired a building, a statue, or other work.

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* *How to Judge Architecture: A Popular Guide to the Appreciation of Buildings.* By Russell Sturgis. (London: Macmillan & Co.)

It is now possible to treat of any problem in æsthetics as an independent subject. We may or may not see any connection between it and psychology. A Greek never adopted a rough-and-ready method of that kind. He had to demonstrate that the admiration of the beautiful was a testimony to the existence of some mysterious power which could manifest itself in other ways. He was without such a theory of development as is found universally applicable in our time. Man was to him one of those beings who had revolted in the heavens and had dearly to pay for his primal fall. But he in some measure still retained his power of reminiscence, and his love of the beautiful was evidence that in some prior state of existence he was surrounded with objects of surpassing beauty.

To some extent this theory of reminiscence continues to be applied. We do not suppose there were a series of archtypes, but we believe that history has allowed a vast number of associations to be inseparable from every great Classic or Renaissance building. Now we treasure it for the numerous great events connected with it. But in that way we are apt to look on the structure simply as a storehouse rather than as an exemplification of an architect's idea. Hence it is that one of the first suggestions offered by Mr. RUSSELL STURGIS is that we should keep clear of the pathetic interest belonging to ruins. In the beginning of his book he says:—

> The Parthenon, as we see it now in its decay, dominating the town of Athens from the top of its rock, or looked at close at hand, lighted by the Grecian sun or by the moon for those who are romantically inclined, is unquestionably a most picturesque and charming ruin; it is imposing in its mass, interesting still in its details, and invested, of course, with an immeasurably great tradition, historical and poetic. That fact must not be forgotten for a moment; but, on the other hand, it must not be forgotten that this admiration, this enthusiasm, is not given to the work of art. It was not at all to produce such a ruin as we now see that the Grecian artist thought and toiled. Admire the ruin to your heart's content, but be careful that you do not allow too much of this romantic association to enter into your love of the artistic entity of the lost Parthenon, which we have to create out of the air, as it were. And beware of the admiration of ruins as you would of the "tone" given to a picture by time; it is not that which the artist proposed to himself or even thought of, and it is the artist's purpose that you must ask for always. That is the first thing. Until you are sure you know that purpose fully it will not do to find fault with the work of art, or even to praise it too unreservedly.

In order to enable his readers to ascertain the artist's purpose, Mr. STURGIS gives a series of chapters on the different phases of architectural design. The divisions he adopts are the following:—Early Greek, Later Greek and Roman, Early Mediæval, Central Mediæval, Late Mediæval, Revived Classic, Later Revived Classic, Eighteenth Century, Nineteenth Century, Imitative Design, and Nineteenth-Century Original Design. The various periods are illustrated from photographs of buildings, explanations are also given of technical terms, and thus we have a brief treatise on architectural characteristics.

It would be unfair to Mr. STURGIS to attempt by means of a few extracts to explain that concatenation displayed by the history of architecture when the works of several centuries are brought together. It will be better to confine ourselves to the nineteenth century. It was supposed to be without aim, and the selection of models or styles would seem to be dictated by chance. It is, however, easy to perceive that the causes, if taken up singly or collectively, seem to lead towards a common end. When NAPOLEON held sway there was a chance for the Classic style, which was not to be obtained in the reign of LOUIS XIV. DAVID, as the exponent of the desires of the time in art, had revived Greek legends as subjects, and Greek and Roman forms prevailed in ornament, both domestic and architectural. After the fall of the Empire a reaction was inevitable, but of what kind it was difficult to foretell. The city of Munich is the place of all others which reveals to us that people were trying all things in the hope of one day arriving at and holding fast the type that was the best. The history of architecture is presented in the number of buildings erected in about a quarter of a century by King LUDWIG. They all appear so out of place and possess so little relation with the past or the contemporary life of the city, that in the end a plain man is apt to attach extraordinary importance to a Crystal Palace on a small scale, as if it were the most expressive of the requirements of the period. There seem to be so many objects calling for judgment, it becomes an onerous task to decide which among them is deserving of selection and fostering Of course, it must be admitted that in Munich a process familiar to all educationalists was adopted. The architects were supposed to go to ancient works as the sources o inspiration. But apparently such was the approved rule in all times. It is certainly true of the old builders, but, as Mr. STURGIS remarks, "The buildings they copied, with alterations, with improvements, with enlargements, with refinements, with natural striving for growth, were the buildings of their own time, called forth by the same necessity which controlled them, fitted for the same community, based upon the same well-understood method of construction."

Views of the new church of St. George, Doncaster, are given to suggest the ease with which one or other Gothic period was selected as a model. The old building exemplified various periods, but, as Lord GRIMTHORPE said "Mr. SCOTT and the Early English style prevailed." RICHARDSON'S Trinity Church, Boston, is, on the contrary put forward as an adaptation of ideas obtained in differen countries of Europe. Mr. STURGIS maintains that it ough to be considered as an independent design. For he says —"Once it is established that the designer has felt a liberty to take a general form of his central tower fron impressions received in Spain, while many of the detail are taken almost bodily from the heart of France, the res is to be accepted, as also the adaptation and working-in o the borrowed details as a design well adapted to the requirements of the building, to its place in an open and uncrowded site where the building stands free on every side and to its material, a sandstone, not very fine nor ver hard." It cannot be said that the Classic styles were a fruitful as the Gothic in allowing themselves to be utilised and adapted. According to Mr. STURGIS:—"There ar few modern buildings in which the Classic orders are used at all, or in which Classic details have been carefully studied without what seems to be a strict adherence to recognised types of Classic or neo-Classic general design." The principal reason is that most modern buildings have to be subjected to modifications often before they are completed and a Classic model is too symmetrical to admit of changes From this it would seem as if Mediæval building were better suited to serve as models to modern architects. Yet the details of Classic work exert a influence over the American mind which cannot b ignored. The English colonists crossed the Atlanti at a time when Mediævalism had lost its power. It wa associated also with ecclesiastical or other influences agains which the emigrants had rebelled. In RICHARDSON'S building the shortcomings connected with the later Gothic styles ar absent. It might easily be imagined that something ha been attained which held within it the elements of life an progress. But although his Romanesque goes back to n earlier time than 1875, it cannot be said to have secured hold on American designers. The advantages of immens blocks of stone roughly dressed are now considered doubtful, especially when they may be confined to the framing o a doorway in a private house. They are supposed to b uncouth and barbaric features, and a more refined effect i thought to be obtainable by dressing the stone in a differen way. In England, to anyone who impartially studies th history of architecture, there is much which should arouse gratitude. The experiments in Classicism which date fron Elizabethan and Jacobean times struck root in the country and are now hardly to be regarded as derivative examples In Germany and France there is nothing to correspon with the English Renaissance as a force, and its absence is often expressed in ways that are curious. Mr. Sturgis draws the following comparison between the work of the three peoples :—

> The English designers are in one sense the most original of all, for they follow less closely in the general arrangements of the mass, or of the street front, the example set by former ages. In Germany such indifference to what the past has taught is more seldom seen, and when seen it takes most generally an ugly form of unrestrained fancy, guided neither by tradition nor by strong overruling good taste. In France good taste is rather the rule. As in literature, so in all departments of fine art, the fault of the French work is in the desire not to be rash in the way of innovation, and good taste is always ready to instruct its votaries to follow the path marked out by the men who have just passed by in the human procession, and who had needs to supply quite like those of the present day.

To several modern English buildings Mr. Sturgis has done justice. His appreciation of architecture depends upon the quality and quantity of thought traceable in the buildings. In that way the rules for judging architecture are not unlike those employed in the other arts. But under the existing system, especially as it is seen in the United States, very few architects have the leisure which will allow of thinking. The following picture would amaze one of the Renaissance architects, and they would pity the unfortunate artist who has to practise his art under such unfavourable conditions:—

> This giving of personal thought is exactly the most difficult thing which can be proposed to a twentieth-century architect. He must do everything else first. He must see that the heating apparatus, the ventilating apparatus, the electrical lighting, the ventilating system, the cooking appliances (which will come in somewhere), the plumbing (which will come in everywhere), and the endless modifications of drainage—he must see that all that is faultless. The owner, or owners, really care about those things—they do not care about the design. Then he must see to it that no time is lost. From the moment when the previous tenants move out and tearing-down of the old structure has begun, there must not elapse too many weeks before the new tenants may move in. Ten months may be allowed, when every consideration demands two years and a half, or thirty months. And throughout the few weeks before and after the beginning of that ten months' space, the architect employed will have so very little opportunity to "retire into himself"—to retire, at least, into his study and lock the door and think out that design, taken in its artistic sense—that the hours so given are hardly to be reckoned with at all. Uninterrupted thought is not for the busy architect. The altogether likely sequence of things will be this—that the design is sketched out in a drawing-room car and turned over next day to a high-paid subordinate to work out according to the well-known office scheme.

The book is well adapted for tourists who wish to be able to express authoritative opinions with as little study as possible. Mr. Russell Sturgis, by confining attention to essential points, does not demand too much time or labour from the general reader.

THE LATE H. G. QUARTERMAIN, M.S.A.

By a Correspondent.

We regret to record the death of this architect, which sad event took place on Thursday, February 25, at 4 P.M. at his residence, Abingdon, Dorset Road, Merton Park, Surrey, the house which he himself recently erected.

Henry Goodall Quartermain, treasurer of the Society of Architects and chairman of the Upper Norwood Athenæum, was born at Oxford, August 1843, in which city his father was a builder and timber merchant. He was articled February 1858 to Mr. J. G. Smither, architect, of 32 Fleet Street, one of the earliest members of the London and Middlesex Archæological Society, and in whose chambers this Society first found its home. For the last thirty years he has been a resident at Merton, having been appointed architect and land surveyor to Messrs. J. & J. Innes, merchants, of London, to develop Merton Park as a residential estate. Consequently domestic architecture became his specialty, but in Merton and South Wimbledon he has also erected schools, institutes and clubhouses for the accommodation of the increasing population of that locality. It was in 1857 that he first became engaged with Messrs. Innes (now the City of London Real Property Company). He was elected member of the Society of Architects in November 1887, and treasurer of that Society in 1894. He built a house for Mr. James Innes at Roffey Park, Horsham, and made extensive additions to Mr. John Innes's house at Merton. On August 24, 1889, he was elected a member of the Upper Norwood Athenæum. This Society was founded in 1877, and is now in a very flourishing condition, and at their meeting last Saturday afternoon at Anderton's hotel, Fleet Street, it was unanimously resolved to send a letter of deep sympathy and condolence to the widow and family of the deceased chairman of the Society.

Mr. Quartermain took a deep interest in the welfare and proceedings of the Athenæum, and personally conducted many of its excursions and rambles, the first one he undertook being to Shoreham, near Brighton, in 1891, the next being to Slyfield Manor and Great Bookham, Surrey, in 1893. He has also conducted several in Sussex and Essex. Mr. Quartermain married the eldest daughter of Mr. William Page Ivatts, of the London and Middlesex Archæological Society, and leaves a widow and several children to mourn his loss. Many of his papers have been published in *The Architect.* His remains were interred on Tuesday last, the 1st inst., in Merton churchyard, many of his friends and relatives and representatives of his societies attending the funeral. Well may we repeat the words of Longfellow, the most popular poet of the nineteenth century :—

> Art is long and time is fleeting,
> And our hearts, though stout and brave,
> Still, like muffled drums are beating
> Funeral marches to the grave.
> Lives of great men all remind us,
> We can make our lives sublime,
> And departing leave behind us
> Footprints on the sands of time.

We are sure that no one would have more denounced the idea of his being a great man than our modest friend Quartermain himself, yet his "footprints" will always remain to those who visit Merton and see his works, and in the volumes of the societies who have published his writings.

THE PETERBOROUGH TITHE BARN.

The old Tithe Barn at Peterborough, which for centuries has been a landmark on the Lincoln Road, and which for a dozen years has been nothing more than a skeleton, has just been dismantled. It has been purchased by a London antiquarian, who has had the timber removed to be re-erected near London. It was at first believed that the wood used inside was oak, but it turned out to be nearly all chestnut, supposed to have been cut from Rockingham Forest. There was not an iron nail in the structure, which somewhat resembled a church with side aisles. The building, which was substantially constructed of stone, measured 144 feet by 32 feet. The Tithe Barn was reputed to be nearly 700 years old, and was built to accommodate the tenth part of the produce of the land which was set apart for the maintenance of the monastery. For years the building was a receptacle for stowing away corn and grain, which the landlords unwillingly brought and which the monks carted away in instalments to the monastery. When, however, the property ultimately passed into the possession of the Dean and Chapter the barn served for the ordinary usages of a farm. For the last fourteen years the wooden framework has been exposed to wind and storm

NEW BUILDINGS AT CAMBRIDGE.

On Tuesday, March 1, the King visited Cambridge for the purpose of opening four important buildings which are likely to give additional facilities for instruction in branches of science, three of them on a site abutting on Downing Street. Of these the first and most imposing, writes a special correspondent of the *Times*, is the new Geological Museum, erected from the designs of Mr. T. G. Jackson, R.A., and largely at the cost of a fund subscribed for the purpose of erecting a memorial to the late Professor Adam Sedgwick, whose statue, executed by the late Mr. Onslow Ford, stands in the place of honour in the new museum. It will serve for a geological school, a geological library and a geological museum. The building consists of two wings, one of which faces Downing Street, while the other stretches at an angle to the rear, along the eastern margin of the site purchased from Downing College, thus forming with the other new buildings erected part of one of the sides of an irregular court or quadrangle. Continuous with the museum, along the eastern or Downing Place front, it is hoped hereafter to erect a school of agriculture. Adjoining its other wing, along the Downing Street or northern front, is the new Law School and Library, also from the designs of Mr. T. G. Jackson

It is in a less advanced condition than the adjacent buildings, which, although not quite completed, are already occupied and more or less in working order, and it is not easy as yet to express a judgment on its architectural features, external and internal. The new Law Library, however, bids fair to be a fine specimen of its class, and the whole pile is an imposing one, exhibiting many of the graceful and scholarly features of Mr. Jackson's work. Between the Geological Museum and the Law School a spacious and stately gateway gives access to the interior court, across which at a suitable distance the new Botanical Laboratory is erected. The fourth side of the court has been assigned to archæology, but remains vacant for the present. The entrance to the Geological Museum is from the interior of the court—that is, on the side away from the street—and is dignified by a handsome external stairway.

The Geological or Sedgwick Memorial Museum has cost some 45,500*l.*, and there are still some further expenses to be incurred. Of this amount about 26,000*l.* has been obtained from the Sedgwick Memorial Fund, which was collected many years ago and has had to wait until the University could see its way to give the proposed memorial a suitable embodiment, and about 800*l.* has been obtained from other benefactions The remaining cost has been charged on the income of the University, and has been met so far out of the profits of the Press, supplemented by contributions from the building reserve of the Common University Fund.

The Law School, comprising lecture-rooms and the library above mentioned, is to cost some 22,000*l.* odd. Of this sum 15,000*l* has been contributed in the form of a private gift from the trustees of the late Miss Squire.

At the rear of the Law School on the Downing College site is erected the Botanical Laboratory, from the designs of Mr. W. C. Marshall, at an estimated cost of some 25,000*l.* odd. The building is a sightly one, but of less ornate exterior than the adjacent Law School and Geological Museum, and, though very well designed for its purpose, it is quite Spartan in its interior fittings and decoration. Botany in these days means a great deal more than it did to our forefathers. It includes the physiology of plants, experimental agriculture on its scientific side—such as the cultivation and selection of hybrids and seedlings—and through bacteriology it takes cognisance of many branches of knowledge intimately connected with practical life. Hence a modern botanical laboratory is no longer adequately equipped with herbarium, museum, lecture theatre and library. Besides provision for the preservation and maintenance of these departments, it requires specially equipped laboratories, a staff of demonstrators and assistants, together with special accommodation and appliances for advanced study and research in the many lines of inquiry which botany now comprehends. These have all been provided in the new laboratory, not, indeed, on a lavish scale, and certainly with no extravagance of equipment, but on a scale not unworthy of the growing importance of the subject. It should be added that the removal of the botanical department to its new habitation has rendered possible a further extension of the engineering department, already much needed, in spite of its recent extension at the cost of the family of the late Dr. Hopkinson, who contributed to the Benefaction Fund a sum of 5,000*l* to be placed at the disposal of Professor Ewing for the erection of the "Hopkinson Wing." A new drawing office and store-room have also been erected at an estimated cost of 2,550*l*

The Pathological Laboratory, with which is associated the Humphry Museum, is at present accommodated in the new Medical School, erected from the designs of Mr. E. S. Prior on the north side of Downing Street, opposite to the Law School and Geological Museum. Internally the new building is a purely business-like and quite unadorned structure, in which utility and suitability for its purpose have been considered before everything, except in the portion assigned to the Humphry Museum, where grace of proportion and dignity of structure have not been neglected. The same remark also applies in some measure to the library Externally some attempt has been made—not perhaps with entire success—to give an imposing elevation to the Downing Street frontage. The elevation is not without well-considered features, but their effect is marred by a height which seems disproportionate to the width of the street, and to the roof, which is scarcely visible above the parapet. The new building is still incomplete. It is intended, as soon as funds are available, to extend it by adding a wing devoted to other departments of the Medical School, especially pathology and physiological chemistry. This wing will have a frontage to a street which runs at right angles to Downing Street, and another to an interior court, which separates the new laboratories from other departments associated with the same school. The cost of the building now erected will be some 34,000*l.*, including the cost of fittings. The additional wing will require about 13,000*l.* more, exclusive of the cost of fittings.

Thus, of the four buildings opened by the King, the Geological Museum has involved no direct charge on the general Benefaction Fund collected by the Association, though the University will have to provide at least 20,000*l.* before it is fully equipped and paid for.

TESSERÆ.

Origin of Styles.

SO long as architecture administered only in an incomplete form to the selfish wants of individual man, an almost perfect uniformity in its earliest local types prevailed. The shelter of primæval man was little else than the shelter of the savage of to-day; but the instant that an effort is made either to recognise by structure belief in the material existence of a Deity, or to perpetuate the memory of a man, each race seems to strike out something different from all other races. It is this tendency to create specific variety in form the moment the imagination is excited, which calls into being what are known as architectural styles. These are in fact compounded of the hereditary inclinations of races, and the facilities for building existing in the materials for structure by which any such races may be surrounded. Architecture being based upon reason—that is, human reason—cannot but vary with the conditions of reason of those by whom it originated; and as men change so do styles. In the architecture so created, whatever phase or phases it may assume, there must always co-exist two principles which by patient analysis we are enabled to separate. The one is that which is permanent, and therefore common to all styles; the other what is fluctuating with every change or development of style. As Socrates replied to Protagoras, "Man is the measure of all things. By descent deeper into his personality you will find that underneath all varieties there is ground of steady truth. Men differ, but they also agree; and therefore as to what is fleeting they agree. As to what is eternal, difference is the region of opinion. Agreement is the region of truth. Let us endeavour to penetrate that region." The preservation of the element which is permanent gives us that true theory of building up form which constitutes the syntax of the art; while that of the secondary or the temporary provides us with materials for studying the history of fashion, a subject not only amusing and interesting, but most useful if rightly investigated.

Nero's Palace, Rome,

In front of the palace, in a projecting forecourt, the triple colonnade of which measured 1,000 feet, stood a statue in bronze, compounded of gold and silver, of Nero Apollo, 120 feet high, the work of Zendorus the Greek, the greatest sculptor of the time, and, according to Pliny, a master of the art of bronze casting, already then dying out. The walls within the palace which were not covered with the finest frescoes and stuccoes were inlaid with gold, precious stones and mother-of-pearl, the floor with the costliest mosaics, of which one can hardly form an idea without calling to mind that in a citizen's house in a country town on Vesuvius such a mosaic floor has been found as the so-called Alexander's battle. The ceilings of the banquet halls were covered with plates of ivory, from between the crevices of which a shower of odours was spread over the guests. The largest banqueting-hall was a rotunda, the ceiling of which—probably adorned with pictures of the stars—moved day and night at an equal pace with the vault of heaven. Baths in the palace were fed by ducts that brought in part sea-water, in part water from the sulphur springs between Rome and Tivoli. "Now I begin, finally, to live like a human being," said Nero when the palace was inaugurated. The enormous building was like a city by itself. The collection of older imperial palaces rebuilt, which covered the Palatine Hill, formed one wing of the golden house. Over the hillock called Velia, the palace ascended the Equiline hill, and took in several quarters there. The valley between Esquilinus and Coelius was also included in its precincts. The usual entrance, or rather passage, was at the place where the triumphal arch of Titus was afterwards erected.

The Roman Basilica.

The heathen basilicas followed two systems of construction; the division between the nave and its aisles might be made either by columns supporting an entablature, as in the Basilica Jovis, or by massive piers supporting arches, as in the Julian Basilica and that in that of Maxentius or Constantine, whichever it is to be called. The latter of these seems the natural prototype of the more massive Romanesque forms of Germany and Northern Italy, but we do not find it used in the basilican churches either of Rome or Ravenna. Its great advantage was that it allowed the building to be vaulted—witness the mighty vaults of the basilica of Constantine—which could hardly be the case either when the building followed the Greek construction or when the arches rested on columns. This last in its various shapes became the received form, but it is wonderful how hard a fight the Greek construction made. Spalato first beheld the experiment. Diocletian, or his architect, boldly set the arch to rest at once on the capital of the column, and thereby planted the germ which was to grow into all arched architecture, Romanesque, Saracenic and Gothic. The arcades of the peristyle at Spalato look like the arcades of a basilica standing out of doors and asking to be taken inside the building. At Rome and at Ravenna they find shelter. At Ravenna the entablature is nowhere used; the columns always support arches, though always with that intervening stilt which is the characteristic of the local style of that city. But at Rome under the influence of the vast stores of heathen buildings, some of the greatest basilicas still kept the construction of the entablature. To mention for the present no other cases, it was so in the nave of the old St. Peter's, the Vatican Basilica, and it is so still in the great Liberian Basilica, better known as Sta Maria Maggiore. But the arcade is clearly so far better suited for the uses of a church, or indeed for the internal uses of almost any building of any kind that the other construction seems to have remained in use only in Rome, where the architects must have been, more than anywhere else, under the strongest influence of Classical models. Elsewhere the arcade resting on columns became the universal use, and even in Rome it became more usual than its rival. Gradually as the architects became more alive to the capabilities of the form of construction which they had now worked out, the columns no longer gathered together so timidly as they do in the earlier examples, but began to stand further apart, and to support arches of greater span, as we see in the basilican churches of Lucca, as compared with those of Ravenna. At Lucca also we see the column in certain positions supplanted by a square pier, which has nothing in common with the massive square piers of the German churches, being hardly thicker than the column itself. Still, it is the column—if possible the marble monolith column of Classical type—which is the proper support of the arches in a basilican church. The column which had been brought into artistic being as the support of the external entablature of the Grecian temple had thus worked out for itself a use no less elegant, no less appropriate, when it became the support of the internal arcades of the Christian church.

Greek Decorative Art.

In their statues and pictures the Greeks made every effort to attain perfection, but in their works of decoration they seem quite unconscious of any effort at producing a fine thing; they merely expressed without afterthought their instinctive feeling for the grace and beauty of the life surrounding them. A parallel to this perfectly spontaneous art may be seen in the vivacity with which Leech gave vent to his feeling for the humour of English life. The Greek's instinct for beauty was expressed just as spontaneously and completely, and equally without any intention of making a fine work of art. If you wish to know further what is meant by this freedom, you should examine some stuccoes in the South Kensington Museum from a Greek tomb in Southern Italy, especially a reclining female figure executed without the slightest effort, apparently with a few strokes of a knife, a stick and the finger and thumb, but which, nevertheless, is a model of grace and elegance, both as to movement and in the form of the limbs. The state of mind which gives life to so delightful an art is one that we cannot approach; for you will see at once the vast difference between such an art as Leech's, which is on the verge of caricature, and one in which the most exquisite perceptions of refinement and beauty are not only instinctive but exclude everything else. The only other art which has the same spontaneous character is that of the Japanese, and for the same reason. Their art is the expression of the enjoyment they derive from nature and from producing the best workmanship of which they are capable. There is again no conscious effort at the production of a fine work of art; but with them the sense of beauty does not extend to the human figure; in the representation of birds and flowers they are unrivalled, and their landscapes are vivid expressions of the charm of nature, especially in her homelike characteristics. And while we find the highest perfection and completeness in their workmanship, we find also that, like the Greeks, they do not depend upon laborious finish for arriving at truth of nature, for the merest blot of a bird on the wing is as full of life and expression as their most highly wrought productions in bronze or lacquer.

Norman Influence in Leicester.

Nothing brings out more clearly the utter severance of our English towns from all connection with the Imperial past than the absence of their insignia. Up to the twelfth century the two swords of life and death were still borne before the échevins of Amiens; the fasces were long carried before the "consuls" of the South; the sabre which superseded the consular axe is still preserved at Tolouse. But London in the fourteenth century was probably the first English town to assume these emblems of supreme magistracy, and then as a mere matter of imitation. Rome and the Roman municipalities had, in fact, wholly disappeared. The towns seem to have been utterly deserted, and, as at St. Albans and Leicester, to have served as quarries for their English successors. In place of the great manufacturing town of to-day, with its veil of factory smoke, the Conqueror found but a little borough camped along the edge of its stream in its clearing among dense woods. On most towns the effect of the Conquest had been the transfer of their lordship from the Crown to some Norman baron, and in some cases, as at Norwich, the creation of a French town side by side with the English borough. To Leicester it seems to have bequeathed an order of upper burgesses, a sort of foreign magistracy, for the most part dependents of the foreign earl to whom all within or without its walls was subject. The great forest, reaching to the very gates, from which they drew their timber, and in whose clearings they fed their cattle, was the earl's; the burgesses sank into a state of semi-serfdom, bound to reap the earl's corn crops, to grind their wheat at the earl's mill, to redeem their strayed cattle from the earl's pound. Their lord had his gifts, his aids, his gavel-pennies; the burgesses had to follow him to the wars, to share his fortunes, to hold the walls for him even against the king, to forsake their homes on his defeat and fly to some safer shelter. The whole government of the town, all its higher justice, was in the earl's hands; he appointed its bailiffs, received the fines and forfeitures of its courts, the fees and the toll of its fair and market. It is not easy at first sight to imagine a subjection more complete, and the interest of the story of Leicester lies in the quiet, gradual way in which this subjection was shaken off, and the town slowly raised into a condition of independence. In the first place, of course, the burgesses had always a right of justice and a right of trade. They had their monthly or quarterly town meeting, "Conmecherchie," where civil suits were decided and the affairs of the town were discussed. They had their merchant guild, the voluntary association of all its landed inhabitants, where over the feast of ale and wine in Guildhall they regulated trade, assessed the fines due to king or earl, looked to the due repair of gates and walls and bridges—in fact, exercised much the same functions as a town council of to-day. Till 1250 it is notable that the guild remained under the rule of its alderman; after that date he is superseded by a mayor. But these liberties by no means served, as lesser franchises served in French towns, as a starting-point for violent efforts after a republican liberty, or armed attacks on the oppressive rights of the lord. One after another, in practical English fashion, the burgesses bought in hard cash the liberties they desired. Earl after earl yielded to them the confirmation of the rights of their guild—permission to gather wood in the forest, right of common in its pastures, the commutation of their service in harvest time, and their bondage to the earl's mill for reap-silver and the multure-penny, and the abolition of the commutation, freedom of trade within the town, freedom of going and coming as they carried their goods to Boston fair.

Irish Romanesque.

The Irish style seems to us not only to be a distinct form of Romanesque, but not to have been without influence on buildings in Britain. Students of Welsh remains have often noticed in the buildings of North Wales an approach to an Irish character, just as in the buildings of South Wales there is an undoubted Somersetshire character. When we remember how much longer North Wales remained independent than South, there is every reason to believe that Dublin formed a commercial, and probably an artistic, centre for the one country, just as Bristol undoubtedly did for the other. And here and there beyond the North-West border we find exceptional Romanesque buildings, like Kilpeck in Herefordshire, which depart somewhat from the ordinary Norman type, and show a certain approach to Irish forms. But while we claim for the Irish style a distinct place in architectural history, we should not be inclined to place any of the enriched buildings at any very early date. It should be noticed that they show no special affinity to the primitive Romanesque style of other parts of Western Europe, the English examples of which are known as "Saxon." On the other hand, the Irish buildings gave very little opportunity for the peculiarities of that style to come out. The most distinctive thing about the primitive Romanesque church, whether at Earls Barton or Schaffhausen, is the towers, and we need not say that the Irish towers stand altogether by themselves. At the same time there is a certain, not very distant, analogy between the tall slender round towers of Ireland and the tall slender square towers of other countries. On the whole, we should be inclined to look on the enriched Irish Romanesque as one of the local styles which, in the course of the eleventh century, supplanted the common primitive style in most parts of Europe, and of which our Norman is one example out of several.

NOTES AND COMMENTS.

The French Republic has decided to assert its importance by the character of the buildings employed for the Embassies. A large sum of money was lately expended in order that the mansion at Knightsbridge should be representative of modern luxury. In Rome a splendid diplomatic *coup* was accomplished by the purchase of the historic Farnese Palace. The acquisition will mean an outlay of nearly 4,000,000 frs, apart from the expenditure on improvements, decoration and furnishing. The prestige arising from the possession of such a property cannot be said to be too dearly purchased. M. Chedanne has completed the plans and model of the embassy buildings to be constructed in Vienna on a site belonging to the Republic. Another important building is to be erected in Washington from the designs of M. Bernier. The works have been commenced for the residence of the French Minister in Morocco, according to the designs of M. Paul Guardet. The natives of Senegal are to be impressed with the greatness of France by means of a palace about to be erected for the Governor-General under the direction of M. Deglanne. The architects whose names we have mentioned are among those who distinguished themselves in connection with the International Exhibition of 1900.

Present necessities came into collision with respect for antiquity when the Islet of Philæ had to be transformed in connection with the great reservoir of Assouan. Every foot of masonry that could be preserved was duly scheduled and became part of the property of the Department of Public Works. The result is not satisfactory either to engineers or to archæologists. It is now said that Sir William Willcocks, who has charge of the great irrigation works, proposes to take down the parts of the temple, to convey them to the Isle of Beghet, which is not far distant, and there to set up a new Philæ. It is calculated that about 14,300 cubic metres of ancient work will have to be transported, and the total cost need not exceed 200,000*l.* It is possible, however, that many losses would arise from the change of position. Philæ was probably selected in the first place for its suitability as a picturesque site, or on account of ancient legends attached to the spot. Once established it may, however, have served as a colossal bench-mark, and probably was referred to by geometers as if it were one of the fixed points of the world. In London the removal of a building and the setting of it up in another place may be no more than a mechanical incident, but we should not try experiments of the kind with renowned buildings.

The practice of sub-contracting is becoming so usual, it is to be expected that the law courts should be sometimes called upon to decide cases connected therewith. It may be stated broadly that, according to the Workmen's Compensation Act, if the undertakers in an employment to which the Act applies contract with any person for the execution of certain part of the work they are responsible for injuries arising out of such work that may occur to any of the workmen engaged. A case depending on this section was recently heard by Judge Woodfall in the Westminster County Court. The claimants were the widow and child of a workman who was killed in falling from a scaffolding at the new Gaiety Theatre in the Strand. The work was being carried out under an agreement entered into by the respondents (who were the general contractors) and the proprietors of the theatre, that certain stone-carving work should be done which was sublet by the respondents to the employers of the deceased. The accident occurred on a Saturday afternoon when the men were doing overtime. The Judge decided that stone-carving was employment in the meaning of the Act, being ancillary to the business of the respondents as builders. An award was made for the amount, 281*l.* 2*s.* 6*d.*, which had been arrived at in a previous arbitration, together with costs.

Public attention has of late been frequently drawn to the subject of forestry in the British Isles. Of its desirability there are no two opinions, but there is disagreement as to its possibility and the methods by which it might be attained. The Company of Carpenters were well advised to arrange a public lecture in their hall by Professor Schlich on "The Forestry Problem." They have also awarded a premium of 30*l.* for an essay on the subject. The Earl of Harrowby, who acted as president, commenced with giving the landlords' point of view. It was suggested the Government should follow the example of Germany and establish schools of forestry all over the kingdom. He knew from experience how difficult it was to get an agent or a woodman who knew anything about forestry or understood the work. There does not seem, however, need for great knowledge, since very few acres are planted to-day with forest or hardwood trees, the principal planting being coverts for shooting. There is very little real forestry now such as there was a hundred years since. In Gloucestershire the Earl of Harrowby owns a wood of 200 acres which was planted some time ago with underwood and gave a handsome return. Fifteen or twenty years ago 20 acres produced 7*l.* an acre, but only last winter he had great difficulty in persuading a timber merchant to give 15*s.* an acre. There was formerly great demand for such wood in the Potteries, and then landlords could afford to mix in a few forest trees and wait their coming to maturity. Under these circumstances there is little inducement for landowners to plant.

If the French people are now eager to include paintings by English artists in the Louvre, the change in their desires is mainly owing to the efforts of M. Paul Leroi in *L'Art.* There exist no finer etchings after English masterpieces than are to be found in the pages of that admired periodical. M. Paul Leroi has not, however, exhausted his energy in those efforts. In the latest number is probably the largest plate after a portrait by Reynolds which was ever published. It represents the Hon. Lavinia Bingham, and was etched by M. William Barbotan, winner of the Grand Prix de Rome, and is another of those noteworthy enterprises in which *L'Art* may fear no rival. There are additional etchings and other illustrations. A great many artists owe their success to appearing under the auspices of *L'Art*, and the latest instance is M. Emile Robert, a worker in iron who is able to treat Renaissance and Gothic detail with equal spirit and accuracy.

ILLUSTRATIONS.

WILKINSON'S SWORD COMPANY'S PREMISES, PALL MALL FRONT.

ROMAN CATHOLIC CATHEDRAL, WESTMINSTER.—FROM WEST TRANSEPT, LOOKING ACROSS SANCTUARY.

FITZROY SQUARE, LONDON.—EAST SIDE.

We publish to-day the second side of Fitzroy Square, which Robert Adam designed. It is interesting to compare the two. There is a great similarity between the details of both, and each has the plainest oblongs for window openings. A slight alteration in the character of the larger windows, and some other details, is sufficient to express differences of treatment which remove the monotony caused by repetition. The Square, however, has had to succumb to changes in fashion, and although many artists have from time to time occupied the houses, Fitzroy Square has not been as much appreciated as it deserved.

HOUSE AT EYNSFORD.

HOUSE AT SEAFORD.

DOORWAY AND FIREPLACE IN WINDOW WOOLWORK AND PANELLING.

We have been asked by Messrs. Arrowsmith & Co., of Mount Street, Berkeley Square, to state that the subject of one of the illustrations we published last week was executed from the designs of Mr. Lutyens for the hall of the English pavilion in the Paris Exhibition. In putting the parts together for exhibition in Bond Street, the want of space compelled the omission of portions which would have enhanced the appearance of the composition. The fireplace and panelling in the second illustration, forming an Elizabethan oak hall interior, were carried out by Messrs. Arrowsmith from the drawings of another designer.

MAHOGANY AND OTHER FANCY WOODS.*

WHILST accepting the great honour of the invitation of your Council to read a paper on the above, a privilege ghly appreciated, still one cannot but feel that the time lowed makes it impossible to deal fully with, and to do justice , the subject. The importance of timber in our commercial conomy is well recognised by your Society, seeing that you ave devoted several evenings to the consideration of various hases of timber and timber supplies.

We are now said to be living in an iron age, and whilst it is ue that metal enters more largely than formerly into our con- ructive and general economy, it is also an undoubted fact that ır modern requirements of timber are depleting the world's rests far in excess of natural reproduction ; nor is it appre- ated that whilst timber is exhaustible it is restorable ; but, as t, practically nothing is being done to conserve or reproduce hat is, to man, as vital as even "food supplies."

The cynic may say, "Let futurity take care of itself ; it has ne nothing for me." Granting the truth of the cynicism, is not also true that we inherited a world most bounteously nbered? Shall we not then do something to hand on to ure generations that heritage unimpaired? There is no need panic, but there is need for prompt action, and if we are to aintain our industrial supremacy something must be done to augurate an extensive and scientific system of the reafforesta- n of the United Kingdom and Ireland with such timbers as perts may agree upon as being likely to thrive.

We hear much of the open-air treatment of consumption, d see a vast number of the unemployed in our large cities, d there is far too much cant about the liberty of the subject ; t it would be a kindness to compel the inefficients to return the land and find them employment in forestry.

It would be a folly to delay action until a timber famine is on us, as merchantable timber cannot be grown in a season, e so much grain or cotton.

Literature bearing upon timber available for commerce is agre ; much of what there is is either too academical or it is itten by some party interested in pushing some unknown and tried wood, with a view of proving that in it users would find material that in itself excels all other tried and proved bers.

Such writing betrays much ignorance ; it cannot be too tinctly understood that each wood has its own economy. r object must therefore be to learn the special characteristics those which enterprise and modern transportation have ced at our disposal, and whilst, however imperfectly, merating the purposes for which each is peculiarly apted, it is essential not to hold a brief for any, only far as they fulfil such requirements which common experi- e demands of a wood if it is to be recognised as being able for high-class work. There is a beautiful avenue of s at Bushey Park, but it does not follow that they would d good timber.

Mr. Stone recently read before you a paper on the identi- tion of woods, so that it is unnecessary to spend much e on that point ; it may, however, be permissible to state t to identify different woods it is necessary to have a know- ge of the definite invariable differences of their structure, ides that of the often variable differences in their appear- e. The craftsman who handles different woods intuitively gnises them ; yet notwithstanding this familiarity, he is uently unable to state the points of distinction, nor can n an expert determine the identity of what is to him a nge wood.

The needs of general building are in the main well provided with soft woods, but our purview is that of something ond a mere granary, so that it is necessary to consider the ed requirements of the architect, engineer and naval con- ctor ; also the railway carriage and coach builder, the ls of the cabinet-maker and shopfitter, followed by those of silversmith and cutler. The makers of fancy knick-knacks utilise many beautifully fine woods which, on account of small sizes, are not adapted for large constructive oses.

To draw a strict line betwixt what is constructive and what corative might be arbitrary. Thus the companion-way of dern steamer may be fitted with the finest fancy woods, whilst the work is primarily constructive, it becomes ntially decorative. In furniture, domestic or otherwise, t from the utility of the article required, the idea is to ellish ; in other words, to make it decorative. Hence the and for high-class fancy woods. When considering what cular wood to use in any prospective undertaking, if the t is to be satisfactory, the choice demands much thought. o judge from many years of observation, it is extremely tful if wood, as an aid to constructive and decorative art, praised at its proper value in first-class buildings. Too ently architects embody in their original designs some charming features of woodwork, only to find when the tenders are submitted that the gross cost of the entire building is beyond the ideas of the principal or building committee.

Then commences the paring down, which usually results in the exclusion of high-class woodwork. This can only be compared to a lady ordering a silk gown, and accepting it with cotton trimmings. In the North there is at the present moment a Roman Catholic cathedral being erected, where the woodwork is of very ordinary soft wood, not in harmony with the richness of the stonework. With reference to the proposed Liverpool Cathedral, it is to be hoped that the architect and building committee will avoid the repetition of such a blunder as the cutting down of wood at the expense of stone. Surely the wealth of Liverpool should provide sufficient money to insure that every piece of wood shall be oak or teak, either of which, if properly selected and manipulated, is almost imperishable, and certainly more durable than stone. The glory of our old cathedrals consists largely in their fine woodwork, and there should be no insuperable difficulty in procuring for the new cathedral woodwork that will arouse the admiration of all who pass through this gate of the sea—East and West.

With further reference to the "choice of woods," what can be more incongruous than a mahogany pulpit in a Gothic building, or to see drawing-room furniture made of oak? Certain woods are unsuitable for Chippendale or Sheraton furniture ; for these styles Spanish mahogany is decidedly most suitable. Obviously it would be impossible to classify all woods and define their adaptability for each specific style and purpose, but possibly the suggestions named will insure some little attention.

Apart from style, there is also the question of the utility of a given wood for a specific purpose ; thus, in the introduction of fine woods into the fittings and furniture of public buildings, offices, hotels and steamers, where hard wear has to be withstood, the architect should seek to procure such woods as will not readily indent or absorb the dirt and smoke incidental to the places named. To avoid these objections, it is necessary to choose woods containing most of the essential features which give fancy woods their value.

Briefly summarised, the salient features of what is required of any fancy wood is that it shall possess more or less of the following attributes :—Hardness of surface, but it must not be of such hardness as to render it potty or brittle, so as to be too difficult to tool ; evenness of texture, that is, an absence of undue variation of alternate layers ; cohesion of fibre, along with an absence of resinous galls. It is also necessary that the wood should season more or less readily, without a tendency to tear itself into shreds or to twist and warp when seasoned ; nor should it swell and shrink with every slight variation of atmospheric conditions. Colour and figure are points which allow a considerable latitude of choice ; it is, however, desirable in high-class woods that their colour should improve with age ; it militates against value when they fade, go black or become lifeless.

In cabinet-making glue plays an important part ; any wood which will not take glue is worthless for this class of work. It is also essential that a fancy wood should be capable of yielding a fine surface when polished ; a wood which unduly absorbs polish is discounted. Many woods which possess the attributes named lack size ; but those which have the essentials, combined with length and width, are invaluable in constructive and decorative art.

An important point for the architect, before stipulating for any particular wood, is to learn if its specification will yield the sizes required ; an iron girder can be made to any size, but the length and depth of an oak beam is limited to what the tree will yield.

Having thus enumerated the features of the wood in general, it is now desirable specifically to name those woods which are on the market, and in doing this to give, as far as possible, the peculiar characteristics of each. Perhaps it will simplify the classification to ignore all botanical distinctions and genera, merely giving their well-recognised commercial names

Recognising the fact that each wood has its own special utility, and that no one wood is for every purpose an absolute premier, there are three distinct woods, namely, mahogany, oak and teak, each possessing many important characteristics so as to justify the expenditure of labour in their manipulation, and rank them as leading fancy woods.

Mahogany, if placed first, must not take that place to the disparagement of either oak or teak. The commanding position of mahogany is not due to any mere freak of fashion, but to its own intrinsic merits, along with the abundance of supply ; 30 feet is not an unusual length, and the squares range from 12 to 50 inches.

Mahogany seasons readily, with an absence of splitting and checking Much of it is firm grown wood, not too difficult to tool. It stands when wrought, and is practically non-inflammable ; it is capable of a high finish in polishing, and as a groundwork for paint it is without an equal. Broadly, it can

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A paper by Mr. Frank Tiffany, read before a meeting of the ty of Arts on February 24.

with advantage be used for almost every purpose of high constructive and decorative work.

The range of sizes and quality, the variety of colour and the diversity of figure (or absence of figure, if so required) is, indeed, marvellous. Whilst special logs fetch high prices, the average value does not exceed that of waney pine; hence the range of purposes to which it can be applied.

Mahogany is defective in colour when its paleness approaches that of birch, or it may be too highly coloured. It is considered good when betwixt the two extremes—that is to say, of a bright ruby appearance.

Grain or Texture.—Wood of good quality, when firmly grown, should be fine and free in the working, without being too hard.

Figure.—A log handsomely figured, if of good colour and texture, commands in price shillings as against pence for ordinary wood; the selection for figure affords considerable scope for the judgment of buyers. The different figures are technically known as "roe," "mottle," "cross mottle," "dapple," "fiddleback," and "plum pattern" along with "curls," but the latter are not much sought by English buyers.

In the main, botanically, our mahogany supplies are the same, but there is a great range of quality, especially in the African shipments.

As to the classification of the various imports, it would be misleading to say that one district yields all good and other districts all bad; but, speaking generally, the imports of Spanish mahogany—that is, St Domingo and Cuba wood—possess the finest texture, and have in a marked degree those chemical constituents which cause the wood to mellow and improve in colour with age, giving them a charm which is distinctively their own.

The supply from St. Domingo is now insignificant, and consists chiefly of small chairwood. The Cuban shipments, notwithstanding a great quantity of small wood, afford a good range of sizes which fit them for the highest purposes of constructive and decorative art. The wood is of firm, silky texture, without being too hard, and when wrought there is no tendency to warp. Much of it is only slightly figured; when richly figured it commands high prices. It would be difficult to give rules to enable the layman to distinguish Spanish mahogany from other varieties; but its silky texture, with small white specks in the bait (whilst the specks in bay wood are usually black), are useful as guides. Another feature of Spanish wood is its intense coldness of touch compared with bay wood.

The next mahogany in order of merit is Honduras bay wood, especially the shipments from Belize and Trujillo These come in larger sizes than Spanish wood, hence their greater adaptability for larger work. Their silky texture, along with a general freedom from serious heart shakes, causes the wood to be much appreciated. In point of size, Honduras wood is excelled by the Tabasco shipments; the latter also yields fine-textured, good-coloured wood, but the heart shakes are usually more serious. Mexican shipments are much softer and frequently contain corky heart wood, but the supplies to this country are practically nil.

Nicaraguan mahogany, chiefly shipped in the round, is of mild texture, but the supply is insignificant and is controlled by a Boston syndicate. Panama mahogany, whilst it is of good texture, is subject to worms, and it comes in such a shockingly battered condition that it only realises low prices, and the shipments are too erratic to give it a place. From Guatemala there is a nice quality of mahogany shipped, but the heart shakes are serious.

The Costa Rican and Colombian shipments are so variable in quality and the shipments too uncertain to enable them to be ranked as standard imports.

Unfortunately, whatever may be the merits of the mahogany shipped from the Central American ports, the quantities arriving in this country are diminishing. But this is compensated by the development—especially into Liverpool—of the African mahogany business. Although the character of this wood varies, it embraces timber which contains in a marked degree those characteristics which make for value. The quantity received is simply enormous, representing the product of different districts; the wood of each has its own utility, but probably the following classification will meet the approval of experts:—

Lagos wood in colour and silkiness of texture more closely approximates to the Tabasco shipments, but in size it is generally small.

Benin wood affords an excellent range of sizes and the logs are well squared. The wood, having a splendid texture, commands a leading position.

Axim and Assinee wood is usually well squared and yields enormous sizes; the colour is generally good, but the texture is softer than other shipments. It is also found that the logs are more or less liable to cross fractures, which cannot be seen until the logs are cut into. Bathurst wood represents the hardest mahogany from Africa, but the sizes are somewhat small.

There are other African ports from which good merch able timber is shipped, which, however, does not require special notice, but Gaboon wood is very little better than b in colour and texture, and as a furniture-wood it shoulc avoided.

Sapeli wood comes in fine, large, well-squared logs, bu scented like cedar, the colour and texture being extrer variable. It is certainly not growing in favour with bu some of whom doubt if the wood is in reality a mahogany.

There can be no doubt that African mahogany is a desirable addition to our stock of furniture-woods, and if perly selected will hold its own, and the mere fact that fig logs sell at prices ranging from 5*s.* to 12*s* 6*d.* per foot of is sufficient to show how highly it is appreciated.

Passing to Asiatic mahogany, it lacks the brightnes colour which is usual in other varieties. Of Austr mahogany, occasionally small sample shipments are Whilst the wood is deeply coloured, it is very dense, and a tendency to split in seasoning. It is doubtful even if nu under a preferential tariff that buyers would take kindly so long as they can obtain supplies from the true maho belt.

Oak is the king of hard woods grown in the temperate The different varieties are so diversified in colour, density size that it would be impossible within the limits of this to bring out all the attributes of a wood which enters so la into heavy constructive work such as bridges, roofs an underparts of rolling stock, all of which are subject to strain stresses requiring a tensile strength and flexibility not equ by any wood known, even if its specific gravity is 40 or cent. greater.

For church and other interior fittings, or for furn whether required for hard wear or for the highest decor art, oak stands unrivalled; but the variety must be consi in relation to the purpose for which it is intended.

For fine work with intricate details possibly the best able is the Austrian wainscot, which, owing to its large growth, seasons without unduly checking and splitting. evenness of colour renders it invaluable.

Crown logs are imported in billet form, clear of heart should have deep sides and a narrow sole, otherwise they too much wood, narrow and without figure.

Wainscot oak from Libau and Odessa is of smaller g and of more dense nature, hence more apt to split and nor can it be produced as clear of heart as is not desirable but necessary. It should be avoided in first work.

The American equivalent term for "wainscot" is " tered," and by this system of conversion all the boar planks show the figure on the face. The wood is sh square-edged, one edge with the sap on. The range of varies from 3 to 18 inches, but anything above 8½ average is special. There are so many dealers here in lines that unless one knows the source of supply there guarantee as to evenness of colour, but the right st obtainable from reputable importers; the uniformity of and the excellence of quality of the best imports fro States cannot be surpassed by European wood. Takin the heavy oak trade, let us for a short time return to Eur shipments.

From Odessa, Dantzig and Stettin are received pa squared butts and logs 6 to 30 feet long, 12 to 22 inches These yield good tough wood, some clean and much rough, yet it is useful for heavy constructive work not req elaborate manipulation.

Formerly fine handsome well-squared logs were s from Quebec. The States now send hewn logs, whic useful for general work and waggon building; but the Sou States oak has a great tendency to check, and should employed in work requiring a high finish.

There is also an enormous trade done in scantling and boards, some good and much indifferent; but the ca of our general market is great. There is what is kno red oak, a porous wood, extremely useful for many pur and it is surprising that it is not more appreciated country.

In naming English oak the last, it is not because its are the least. From a patriotic view it occupies a very position, and it yet remains to be proven whether the armour-clad vessels will do the country better service th ships of oak English oak, by its density and toughn especially applicable to work requiring strength. For ve construction it is second to none, but neither the quantit the sizes available would touch the fringe of our nece In seasoning, especially thick stuff, it is apt to check and and at the best it is a tedious process.

Whether English brown oak is a variety, a freak, result of old age, time will not permit of consideration, absolute beauty there is no wood with which to comp Its knotty gnarled grain causes an endless variety of sha colour, but to bring out the best results all flat work sho ed in the veneer. The present price of labour makes such rk costly, but the result would be better.

Teak.—Had this wood been available when Solomon built temple at Jerusalem, probably with his wealth he would ve preferred it to the cedar of Lebanon; it is, however, used the pagodas of the East, and as a preferential treatment to greatest dependency it is to be hoped that it will be the wood used throughout in the building of the great cathedral Liverpool.

Teak, whilst it is not difficult to tool, contains an essential which renders it imperishable; as it resists the alternations damp and dryness, heat and cold, there is in it an absence welling and shrinking or warping, so that the architect has is disposal an excellent wood either for external or internal ngs. In high-class work there is hardly any purpose to ch it could not with advantage be applied. Its general formity of colour and grain is unique. Considering the ny high essentials found in teak, and the remarkably fine s obtainable, both in logs and planks, and the freedom n defects in the latter, it is by no means a dear wood for d work. The best shipments are from Moulmein and igoon; the Java wood is too hard and gritty for work with h detail.

Having spoken somewhat at length on what are undoubtedly three leading fancy woods, let us briefly place in alphacal sequence the minor fancy woods and hard woods.

Amboyna, an Eastern product whose botanical position is well defined, can only be used in veneers which form emely pretty panels. It is useful in highly decorative work. appearance it is not unlike brandy-snap, but with more egation of colour and figure.

Ash—Most varieties are close tough wood, and it is used fly in vehicular framework, but has neither life nor colour ecommend it as a furniture-wood.

Quebec ash, being of a milder texture, was for a time used oderate-priced bedroom furniture, but its increased cost the difficulty of getting it free from discolouration caused fall into disuse.

Hungarian ash is frequently richly figured, but its varying n, unless special care is taken in laying the veneer, allows glue to discolour it; this, with the cost of labour, puts it of the running.

eech, whilst it is a useful material, cannot be classed as niture-wood, unless it be for cheap chairs.

irch was for a time in vogue for bedroom suites, when ything was veneered; it is now only used in cheap chairs, the frames for stuffed chairs, and for other purposes iring hard wear. It is a useful, cheap wood.

lack Ebony.—Of the many varieties, the largest comes Ceylon. Then there are the shipments from East India, bar, Madagascar and Mauritius; logs come in the round, inch to 3 feet and longer. The wood is extremely dense is highly suitable for small ornamental work. When ied to decorative fittings it is chiefly used in veneers and dings in relief.

lackwood from East Africa is used largely in musical uments.

oxwood is essentially an engraver's and rule-maker's erial, but it is suitable for small decorative panels and for lles and shuttles where an extreme hardness is required; olour it is similar to satinwood. It is imported in the d, 3 to 12 inches diameter. The best comes from Persia Kuysna, that from the West Indies is inferior.

razilwood is used for violin bows.

rigalow, an acacia from New South Wales, is an extremely heavy, dark-coloured wood which smells more or less of ts; it is used for small ornamental turnery and fancy co pipes.

alifornian Redwood or Sequoia.—One would hesitate to this as a furniture-wood; it is a poor material for dove g, being short in the grain and a great absorbent of h. Considering the large flitches it yields, it is a pity that nnot take a better position, as the wood is so remarkably , but it lacks a cohesiveness of fibre.

anarywood.—This is distinctively a hard wood, and whilst first-class fancy wood, it is extremely useful for the inside of fittings and furniture. The best qualities are cleaner yellow pine, and the evenness of its texture renders it ble for staining; the lower grades are largely used for furniture.

edar hardly comes within the category of fancy woods, it a hard wood; its character varies, some being very textured; it was formerly used for the inside parts of ure.

encil cedar, of a deep red colour, with a pungent smell, ormerly appreciated as a moth-destroyer, but it is now t impossible to get it in sizes for constructive purposes

estnut in character is something betwixt ash and oak, g the medullary rays of the latter, and is much softer; it ject to ring shakes and the ravages of the pin-worm; it o beauty to recommend it as a furniture-wood.

Cocobolowood is imported in small diameters; the wood is dense, and is used in fancy turnery.

Greenheart, from British Guiana, is shipped in hewn logs 12 to 20 inches deep, 20 to 40 feet long. Its chief use is in dock-gate construction; it is long in the fibre and dense in texture, but there is nothing in its colour and appearance to justify its adoption in general work, and it is difficult to tool.

Curupay, like most of the South American woods, is extremely hard, heavy and potty; it is neither a mahogany nor a rosewood; when an occasional consignment arrives it is generally neglected by buyers.

Hickory, whilst a good wheelwright's wood, has no feature to commend it for furniture.

Kingwood or violetwood is used for ornamental handles and similar purposes.

Lancewood is a splendid material for shafts, but it hardly comes within the scope of our observations.

Letter or snakewood, a fine ornamental timber, which is used for fancy walking sticks, &c.

Lignum-vitæ, without doubt the hardest product of tropical forests, is invaluable for many purposes, but for decorative work it is too difficult to tool, and it has no beauty.

Jarrah.—A hard dense wood of no beauty in appearance; considering the large sizes to which it grows, it is a pity that its uses in this country do not appear to be available for much beyond that of a paving material, for which it is undoubtedly fitted, as it can be obtained clear of sap, but this is hardly the time to discuss the relative merits of hardwood paving.

Karri.—A similar wood to jarrah, but of much greater tensile strength; to a small extent it is being used for the under parts of rolling-stock, but whether it will be found to possess or retain that flexibility so characteristic of oak remains to be proven, and its great weight adds materially to the dead load of the train. There is nothing in its appearance to commend it for general purposes.

Maple is too insipid in appearance for furniture, &c., unless we except the bird's-eye variety. Its chief uses are for the interior of tramcars

Plain hard maple makes an excellent factory or ball-room floor, as it does not shell in the grain. It is used in machinery and for washing-machine rollers.

Myallwood is used for purposes similar to that of brigalow.

Olivewood does not enter largely into our imports In closeness of grain and colour it is not unlike satinwood, but it is variegated with many dark streaks. It is, however, a useful fancy wood for knick-knacks.

Padouk is shipped from the Andaman Islands in fair-sized, hewn logs; it is of a deep red colour, which fades with exposure. It will not take glue. When wrought it stands well, but it is costly to manipulate Where extreme hardness is required, it makes a good counter-top, but the general run of lengths are too short. It is also a splendid wood for gun carriages, &c.

Partridgewood is occasionally used for furniture, also for fancy knick-knacks and walking-sticks.

Rosewood thirty years ago was considered a first-class drawing-room furniture-wood, but it has fallen into disfavour, although it is still used for pianoforte cases. As a wood it is costly and the sizes small, and is difficult to work. When newly worked it possesses a dark and frequently rich variegated figure, but fades with age, becoming very lifeless. As a moulding wood in relief it is very effective.

Sabicu, a hard dense wood shipped from Cuba and the West Indies, occasionally from Africa, is used by naval constructors, and where hardness is a desideratum it makes a capital counter-top, but for work with much detail there is nothing in its appearance to justify the labour.

Satinwood is probably the gem of the forest, but the quantity available is small, and where used the style should be so arranged to adapt it to the sizes available. In texture and figure it is closely allied to Spanish mahogany, but the colour is of a pale lemon tint. Its appearance when finished justifies any labour which may be necessary.

Sycamore is white in colour, and whilst it is a good kitchen wood there is nothing to recommend it as a general furniture material.

Thuya is the burr of the cedar and makes an excellent veneer for panels and inlaying, but the colour and figure is not so fine or rich as that of amboyna.

Tulipwood, a small fancy wood used in veneers and inlaying

Walnut.—Up to the seventies, when veneering was in vogue and the hours of labour longer and wages lower, Italian, Circassian and English walnut was largely used by the cabinetmaker; the burrs of the two former yield pretty and varied figure; the pianoforte case makers still use it largely. With the change of style in domestic furniture and the more general adoption of fancy woods in general fittings, there arose a demand for black walnut; its large mild growth lent itself to the new need, but owing to the depletion of supplies it is now difficult to get logs clean and suitable for large work; there is no doubt that for a while walnut will continue to arrive, but it will be chiefly ill-grown, harsh, small wood. There is a quantity of low-grade timber arriving for the cheap furniture trade, but the few large and prime logs and first quality lumber will always command high prices, and it is not an economical wood to convert and manufacture.

The colour and coarseness of texture and general pottiness of the South American and Corinto walnut render them unsuitable for this market.

Satin-walnut (so-called) is in reality a gumwood and is used for cheap bedroom suites. Whether it will prove to be a good paving material you have in this city an opportunity of ascertaining.

White walnut or butternut is a mild-textured wood, but in colour too insipid and the supply very insignificant.

Yew-tree, on account of its flexibility, is used for archer's bows; occasionally the trees yield a fine figured burr suitable for panels.

Zebrawood, a tropical product, as its name implies, is stripy in colour, and is used for inlaying.

Incidentally it may be mentioned that apple, cherry and pear are close, even-textured woods, which may occasionally be obtained for carved panels; they are also useful for ebonised veneers and mouldings.

It is not for one moment claimed that the list given represents all the fancy woods, but the endeavour has been to keep within the title of the paper. Comparing the woods enumerated with a good botanical guide, one cannot fail to notice the limited range of woods which have commanded a position.

The method of shipping sample woods is neither satisfactory to the shipper nor to the trade on this side.

Mr. Gamble, in his lecture at the Royal Colonial Institute, spoke of the difficulty of introducing new woods, which is quite true.

Merchants and consumers here have also enormous obstacles to face if they attempt to push an unknown wood. Unfortunately timber cannot be assayed as readily as a mineral. If the former is to be properly assessed it must first be thoroughly seasoned; to do this takes time.

Very few people can determine the chemical constituents of one wood as compared with another, nor are there many who have capital to sink on a wood for which there is no market or demand, and for which the fashion has to be created.

The carrying of seasoned stocks of recognised fancy woods is in itself a heavy tax on capital, without loading it with an unknown and an unproved wood, and if a merchant takes the risk he has no guarantee as to the continuity of supply at a price that would enable him to compete with recognised stocks. Why should an architect specify in his contracts any woods that may prove to be unobtainable?

Can there be any wonder, then, as was remarked by a speaker in the discussion on Mr. Scammel's paper, "that merchants do the plain business thing, and stock such woods as mahogany and oak?" The introduction of new woods involves a considerable amount of missionary enterprise, which rightly should belong to those whose interest it is to secure their introduction and acceptance. Primarily the trade here is not concerned as to what strange wood may be waiting for the logger, as engineers and architects naturally specify those woods which are known to commerce and approved by experts.

Native woods may no doubt fitly meet the needs of a primitive civilisation, but in this country there is the choice of proved products of the forests of the world; and so long as this is the position there is no inducement for the railway carriage builder, for the sake of saving a ten-pound note in a 1,200*l.* carriage, to risk not only the lives of passengers but his own reputation. It is astonishing how few new woods have made a position during the present generation.

This much, however, is certain, that should the present demand for fancy woods and hard woods continue, there must in the near future be new sources tapped, and there is a golden opportunity for anybody who could find, ship and maintain a continuity of supply of woods at present unknown or unrecognised, but these must at least possess some of the essentials enumerated at the outset, and be able to compete in price with the recognised imports.

It is, however, futile to send here unlabelled samples which brokers cannot classify, and consequently give them such unmeaning names as "fancy woods" or "furniture-wood," and hence they are frequently auctioned at prices which do not cover freight and charges.

If a wood is worth sending it should have proper foster-parents, who can give the trade some idea of the quantity available, and the more important question as to the continuity of supply and the cost at which it can be placed on the market.

If, however, a wood is of great specific gravity, this adds materially to the cost of freight, and it will be difficult to work; this is another factor against its general adoption, so long as mild and free working fancy woods are available. Nor should it be expected that initial shipments will prove to be a gold mine to the consignors, but any wood possessing a fair share of the essentials laid down, if properly sponsored, is bound to
force a market if backed up with sufficient missionary ente
prise, but whether this work should be undertaken by t
individual company or the Government at the point of orig
is a matter for them to settle amongst themselves. I ha
endeavoured to show what is required of woods if they are
find a place in our commerce, and I may add that there can
no doubt but there are yet vast tracts of virgin tropical fan
woods unexploited. One looks forward with considera
interest to the enormous possibilities which the completion
the Panama Canal will afford modern enterprise in opening
the virgin districts on the Pacific coast. Our consuls the
should do something to grasp the position before it is fou
that the Americans have obtained concessions and monopolis
the best supplies.

In conclusion, whatever may be the outcome of the pres
fiscal inquiry it is sincerely to be hoped that the products
the forests, especially tropical (as they are essentially our
materials), will be accorded the most favoured clause, if
admitted absolutely duty free.

ENGLISH DOMESTIC AND MILITARY ARCHITECTURE.

THE third of the series of University Extension Lectu
by Mr. W. H. St. John Hope, being delivered at Sa
bury, treated of "Domestic and Military Architecture
England in the Thirteenth Century." There were said to
few examples remaining of architecture belonging to the ea
part of the thirteenth century, probably owing to the inter
troubles of King John's reign, which made the time unfavo
able to the progress of art. In the reign of Henry III, h
ever, men began to turn again to their own affairs and build
operations went on, the king himself being a great patron
arts and crafts. At this period the small farms appear
have diminished, the land being tilled by the owners of
great houses themselves and the servants who dwelt with th
There was an increase in the number of manor-houses, perh
owing to a desire to exchange the strictness of life in a ca
for the greater freedom of dwelling in a house, and it se
that the owners possessed several such houses, moving f
one to the other when it suited their purpose. The Nor
type still prevailed, the hall being the chief feature and o
built over a cellar or sub-vault. The hall at Fountains
wonderful piece of engineering, as owing to the peculiar si
the ground it is built on a platform. The Archbishop of
terbury's Palace at Lambeth has a large hall built in 1197.
Palace, Salisbury, covers the site of the original hous
Bishop Poore, 1220-1221, and it resembles that at L
beth in that the hall is reached by an external s
The first episcopal palace of Lincoln, built in the twelfth
tury, was probably of wood, and Bishop Hugh began the
of the new palace on the ground. At Wells the palace rem
very much as it was in the original. Bishop Joceline,
brother of Hugh of Lincoln, began it shortly after 1220.
great hall (splendidly restored by the late Bishop Lord Ar
Hervey) is now used as a dining-room. Bishop Burnell re
structed the chapel. In the great hall at Wells are type
windows common to the period, namely, the domestic
which consists of a window divided by a transom, and the
cut down to form seats. The style of door of the peri
remarkable for an advance, and pointed arches appear in
of round. The houses of the thirteenth century were e
those of simply two storeys or with projecting cham
assimilating the courtyard type, or castellated houses
towers. At Oakham a house of the courtyard type contai
ancient lavatory, which consists of a stone basin fitted i
wall, over which was hung a little cistern with a tap
which the water ran over the hands and flowed away th
a drain figured as a head A beautiful example of a m
house is that of Aydon Hall, in Northumberland. It is
rounded by a wall for protection, owing to the then distu
state of the country where it is situated. The date is the
of thirteenth century, with simple windows on the ground
and more ornate above. A curious chimney is to be seen
built into the wall. It communicated with the kitchen
upper hall being probably heated by a brazier placed i
middle, as was common in that time. The castellated h
were furnished with a tower such as at Longthorpe (North
and Stokesay (Salop) The latter is a fine example o
thirteenth-century work in almost perfect condition. It
tower, is surrounded by a moat, and shows fine gabled win
The tower was not used for living in but as a place of
and for keeping treasure safely, while from the top a good
could be had of the surrounding country. Some houses
four towers and seemed to have been built on the pla
Rochester and Castle Rising belonging to the twelfth cen
Another type of tower appeared at the end of the thirt
century, consisting in some cases of a cylinder of stone h
round it, equidistant, buildings which formed rooms.
surveys taken in the reigns of Henry III. and Edward I.

o the keeps of the castles being ruinous ; this was probably wing to the inconvenience of getting to them up a long flight f steps, and as they were built of wood they could easily be eplaced if needed. At this time the wooden palisades ere replaced by defences of stone walls, and at Windsor he whole of the earthworks round the Castle were changed r walls of stone. In addition to the walls the palisades ere often still retained. In this century buildings of purely domestic type appear, and a large hall as built at Windsor on the site now occupied by t. George's Chapel, though unlike that of Winchester this was ade of wood. At the end of this period people gave up the itadel style and contented themselves with building walls efended by towers—as seen in Conway Castle—the walls ere going all round the town. This is known as the dwardian type, though it really had its origin in the preceding eign As to the towns, Peterborough, St Albans and Bury t Edmunds had their origin in a cluster of huts outside onasteries, while others, such as Southampton and Windsor, rew up under the great castles. The wall surrounding outhampton is remarkable, for on one side arches are built, utside the wall as it were, but really the wall inside was a ng line of houses, and the arches were for further protection. alisbury is an example of a brand new town. It owed its rigin to the cathedral, and Bishop Poore granted leave to the eople to build themselves tenements. The town is character-tic of the thirteenth century, and is remarkably regularly uilt—the streets forming squares known as chequers. Leave as granted to build a wall, but it was only done round The lose. The roofs of the houses at this time were either of ingle, slate or tiles, and sometimes thatched and reeded. he floors were of earth, or tiles, or boards, and covered with shes ; the walls were whitewashed or painted, a favourite olour in the time of Henry III. being green stencilled in gold. he windows were glazed at the top and the lower parts covered ith wooden shutters.

THE BALTIMORE FIRE.

N commenting on the destructive fire at Baltimore, the *Engineering Record* writes :—In examining the ruins on e ground or in studying photographs it will be important to member constantly the effects of the explosives used to estroy buildings in the attempts to arrest the progress of the ames and to raze walls left in a dangerous condition by the e That some buildings commonly regarded as fireproof ffered severely is evident. Instead, however, of all such ildings going down in the common ruin, as at first reported, number of the modern buildings of fire-resisting construction ithstood the attack of the flames remarkably well, especially nsidering the intense heat to which some of them were ex-sed. Even when gutted the walls of buildings of this class ted to some extent as barriers which aided in retarding the read of the fire. Windows seem to have been the vulnerable ints, and throughout the city almost no window protection had een used According to the best information which this journal as obtained, extremely few buildings were fitted with fire utters, and very few windows were glazed with wire glass. A riking example of the benefit of fire shutters seems to be forded by the United States store-house, a structure about venty years old, and not of fireproof construction, the indows of which were protected with iron shutters. It stood rough the fire while buildings all about it succumbed. On e other hand, a tall office building of a modern type is ported to have caught fire in the fourteenth storey, evidently rough the windows, and the interior burned downwards. The eel framework was badly warped and twisted, and, although e walls were standing at the close of the fire, they were said be so unsafe that it would be necessary to raze them.

The burned district, embracing most of the wholesale, ancial and office-building sections of the city, included a rge number of old dwellings converted to business uses which re in no sense of fire-resisting construction. Probably it ay be safely stated that approximately half the buildings in is tract were not over four storeys in height, and had brick lls with wooden interior construction. Many of the more odern buildings are said to have had cast-iron columns and eel beams without fireproof coverings The character of the ildings therefore, and the prevailing high winds, were largely e cause of the extensive spread of the flames. The wind rried the fire rapidly in its path, and in a great many cases e buildings were observed to burn from the upper storeys wnwards Early in the progress of the fire the water supply, is stated, became inadequate to the great demands made on it, and but for the circumstance that the burning area was rdered by Jones Falls, a small stream flowing through the y, and the Basin, the fire engines would have been almost eless. The city did not own any fire-boats.

Two adjoining power plants of the street railway company re exposed to a severe test. The older plant was destroyed, but the newer plant, situated at the edge of the fire area on the water front, escaped in comparatively good condition. Although subjected to such fierce heat that the steelwork of the coal hoists and similar attachments on the exterior of the building were red hot, it is reported that the interior was not seriously damaged. The engine-house was yet unfinished, only a part of the power units having been installed. These newer buildings were of a good type of fire-resisting construction, and, in contrast with the older plant, make apparent the advantages of designing and constructing buildings so as to resist fire.

Ornamental cast-iron columns and other architectural features of this metal once forming parts of the fronts of fine buildings are now to be seen among the ruins in numerous cases cracked and broken as if made of glass, while in many places that were in the midst of the fire wooden telegraph poles are still standing, some of them having their cross-arms in place, and numbers of tubular iron trolley poles escaped without distortion. Valuable lessons will doubtless be drawn from this costly experience of the monumental city. Among others, this one seems particularly patent now, namely, that buildings with walls and floors of fire-resisting construction if filled with inflammable finish and furnishings may not protect their contents if the windows are left unguarded. That fireproof, or rather, fire-resisting construction is not a failure, but of great advantage when intelligently used, seems also plain, and this fact will probably be more strongly emphasised by detailed examination of the fire-swept area. The contents of the vaults of safe-deposit companies, banks and business houses are generally reported to have been found in good condition, apparently demonstrating that the construction of such vaults has attained a high degree of excellence. Baltimore has been severely afflicted, but engineers and architects will fall short of the discharge of their duty to the public if they neglect to profit by the results of this great test of structural work.

THE NIOBIDES IN FLORENCE.

OWING to indisposition, Dr. A. S. Murray was unable to deliver the final lecture of the course on "Sculpture" before the Royal Academy students. The address prepared by him was read by Mr. A. H. Smith, of the British Museum, and treated of the remarkable group of statues at Florence, representing Niobe with her children and their guardian or pædagogus. The statues have been attributed to both Praxiteles and Scopas, and the general argument of the address was in favour of assigning the authorship to the last-named artist. The left half of the group of Niobides, as arranged by Professor Cockerell, was illustrated by a photographic picture some 20 feet in length. The address began with a brief sketch of the story of the hapless daughter of Tantalus, whose sons and daughters were killed by the arrows of Apollo and Artemis—a story that varies in details as it is told by different authors. The question of the attribution of the Niobides was discussed even by the Romans, and Pliny when writing about another question of doubtful authorship mentions the case of the statues that he had seen at the Temple of Apollo Sosianus, in Rome. The statues at Florence were discovered in Rome in 1583, near the church of St. John Lateran. They were acquired by Cardinal Medici and placed by him in the garden of the Villa Medici, where they remained until 1775, when they were removed to Florence and shown in a room in the Uffizi Palace that had been specially built for them. Possibly they were not the actual statues that Pliny saw, for one thing because the Temple of Apollo Sosianus is a long way from the church of St. John Lateran, and for another because it is known that ancient copies were made from the originals.

Taking first the companion figures of the pædagogus and the boy, it happens that there is in Paris a group, found at Soissons, which shows the two sculptured from a single block. Again, at the Vatican there is another and better version of the figure of one of the daughters, and these alone would be sufficient to show that the figures, whether by Scopas or Praxiteles, had been frequently copied. The arguments that the original works were by Scopas are based partly on the remarkable elongation of the figures, a failing that was also to be observed in the figures on certain slabs from the mausoleum of Halicarnassus There are scientific reasons for ascribing this elongation to the ageing vision of the sculptor. Scopas was getting old when he worked on the mausoleum, and it is possible that the Niobides might also belong to the period of his visit to Asia Minor. With the mausoleum slabs may be compared the marble head of a man found at Tegea and now at Athens, a head that has formed a standard for the work of Scopas for years. This head is remarkable for the curious setting of the eyes, deep at the inner corners The same peculiarity is to be seen in the eyes of the charioteer in one of the mausoleum slabs and in those of the male Niobides. Another argument in favour of Scopas is the Niobide with its back to us, and evidently intended to be seen in that position.

This would not matter in a relief, but in the round it made the placing of the figure in the group extremely difficult. The pose is rarely seen at all, yet curiously enough in the mausoleum slabs referred to there are five back views of figures. The idea is carried to such an excess that it appears to have had a fascination for the sculptor both of the slabs and of the Niobides. Many of the heads and arms in the Niobides groups are restorations, and the restorer of the head of the pædagogus had erred in making him a barbarian instead of an ancient Greek. Assuming that the group is a copy of Scopas it must be admitted that it contains a great deal of commonplace work. This stamps the Florence Niobides as Græco-Roman.

CHRISTIAN SCIENCE CHURCH, NEW YORK.

THE *Architectural Record* gives an illustrated description of the church erected in New York from the designs of Messrs. Carrère & Hastings at a cost of 750,000 dols.

The church is as large as it is convenient, and every part has been made as perfect and as permanent as possible. It will stand as a model of modern ideas in church building and be valuable to those who study church architecture. There has been much discussion as to what type the really American church would be found finally to be, and it is possible that this building, with its elevator service, reading-room and offices for the work of helping the sick, the discouraged and the sinning, may have an important effect upon ecclesiastical architecture in the United States.

New York's newest and most imposing church edifice now greets the eye of one walking or driving in Central Park West in the vicinity of 96th Street. Towering some 200 feet above the curb, it forms a most striking and beautiful picture in glistening silvery white granite—stone so uniform in colour and quality as at once to give one the impression that the whole must have been cut from one huge perfect block. It is perhaps largely due to this granite that the more than ordinary solidity of appearance is obtained. However that may be, this particular stone and the architecture of the building form a most perfect and harmonious composition. The corner cornice stones are 12 feet long, 8 feet wide, and 3 feet 6 inches thick, weighing 18 tons each. Being at the corner of the building and over 50 feet high, where it was nearly impossible to either brace or guy the derricks, the setting of these blocks involved a very pretty piece of engineering.

It may be well at this point to mention the quarries from which this stone was taken, as well as the method of quarrying. The quarry is situated in Concord, N.H. It is one of the few white granite quarries in the United States the product of which does not discolour by exposure to the air, the tendency being rather to grow more white with age. The quarry is furnishing granite for the First Church of Christian, Scientists, of Concord, N.H, a gift from the Rev. Mary Baker G. Eddy. It is the most difficult stone in this country to work because of its extreme hardness. Its peculiar characteristics make it impossible to cut by saw or machinery, thereby necessitating the use of hand labour for the cutting, which is performed by the slow process of chipping until a smooth surface is obtained, thus making the ruin of an entire block through a misstroke of frequent occurrence. The stone is quarried in unusually large blocks. The writer witnessed the effect of a single blast in the quarry which sheared a piece of granite 125 feet long, from 55 feet to 100 feet high and from 10 feet to 20 feet thick, almost as clean as though cut with a saw. From this massive block the smaller ones are cut by means of round wedges hardly larger than a man's finger and only about 6 inches long. The wedges are spaced in the stone at intervals of about 6 inches and are gently tapped with a hammer until the stone is cleft. This can only be done in the direction of the natural clevity of the stone, which, however, always runs at approximately right angles with the bed of the stone.

To go back to our subject, the building. On closer examination one is impressed by the numerous small windows in the two upper storeys, which at once suggest a large number of rooms above the main auditorium not common in ordinary church construction, and shows the honesty of the architectural treatment. The building really accommodates perfectly what might be classed as two independent organisations as to requirements, having separate entrances and plants complete, as well as connecting doors, making it possible to throw the entire building into one when required.

At either side of the main entrance are two large electrically controlled and direct-connected elevators of the modern type, capable of carrying twenty people each. No other instance is recorded of the installation of elevators in a church. Flanking the elevators are two rather remarkable elliptical staircases. There is no iron used, although the stairs are 5 feet 6 inches in width. The method adopted is stronger, less expensive and less bulky. It also permits of quicker construction than do other methods in common usage. Passing through to the auditorium by one of the side entrances, you are under a large overhanging gallery, which extends around three sides of the church and is supported by two large marble piers on either side connected by marble arches to the marble side walls and together by marble beams running longitudinally. These piers and beams coming only half-way between the side walls and front of the gallery give the impression of a series of niches along the sides. This effect is heightened by the fact that the main barrel vault of the auditorium ceiling is sprung from the face of the piers instead of from the side walls, and the sides of the piers with the transverse arches connecting with the side walls develop into three transverse barrel vaults penetrating the main vault of the ceiling. By this method a very massive appearance is obtained, the piers appearing to attach themselves to the outside walls. The centre *motif* of each niche is a large stained-glass window running interruptedly from 6 feet above the ground floor up back of the gallery, finishing in a semicircular lead on axis of the niche above. These windows are very charming in their simplicity, having a warm grey field with a foliage border of soft greens and autumn colourings. In the centre of each of the upper sections is a medallion executed in quiet monotone effect of green and brown framed fittingly in green and amber. The whole effect is heightened by the tone of the woodwork, which is of a most uncommon rich grey-brown, which effect is obtained by the use of a Circassian, Italian and French walnut, bleached up in such a manner as to produce a very light tone, while at the same time preserving the grain. The delicate fawn colour of the Istrian marble is recalled in the colouring of the ceiling, which is used to accentuate the architectural design and modelling rather than as a bit of colour decoration.

The organ and reader's platform is placed in the centre of a large perforated plaster niche which is treated in the same colours as the ceiling. The walnut woodwork with its dull ivory and gold mounts and the organ pipes of Etruscan gold form a most pleasing climax. It may be interesting to note that the modelling of the organ above the keyboard is all done in plaster and toned to the colour of walnut to match the wood. The lighting is worthy of note as well as the fixtures, especially the six large chandeliers, weighing over half a ton each and carrying seventy-eight lights each. These fixtures are probably the finest example of a public chandelier work in America

On the way to the reading-rooms above one is surprised to find a series of rooms worked into the haunches of the arch of the main auditorium. This would have been a comparatively easy problem had it not been for the clerestory windows, which feed light to the perforated sunbursts in the ceiling of the main auditorium. The problem was, however, solved by building light walls over each of the perforations and locating the passages and rooms around the walls, with bay windows into the same. On the top or reading-room and Sunday-school floor a large room has been arranged with dome light thereover This room is surrounded by smaller rooms for church officials and practitioners.

NORTHAMPTON ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY.

A MEETING of the Architectural and Archæological Society for the Archdeaconries of Northampton and Oakham was held on the 25th ult. at the Masonic Hall, Northampton. Sir Arthur de Capel Brooke, Bart., was voted to the chair.

Mr. F. W. Bull, of Kettering, first read a paper on "Rothwell Priory." He said there was at Rothwell a priory of nuns of the Order of St. Augustine, dedicated to John the Baptist. It had hitherto been generally stated that its founder was unknown, although believed to be one of the Clare family, but it now appeared from a document preserved at the Vatican, and recently published, that the priory was founded by Richard de Clare, Earl of Gloucester. This earl distinguished himself in many ways, and about 1247 brought to this country the nuns of the Order of St Augustine, and settled them at Clare. He died in the reign of Henry III., 1261-62; his son, Gilbert, died in 1295; whilst his grandson, Gilbert, was killed at Bannockburn in 1314, and leaving no surviving issue, his estate passed into the possession of his sisters. The Hundred and Manor of Rothwell were assigned to Margaret, the wife of Hugh de Audely. The first prioress of Rothwell Priory of whom there was any record was Agnes, who died in 1305. The priory seemed to have been very inadequately endowed, as the only income was a sum of 4 marks and the rent produced by four fields of land, in one of which the priory stood. The incomings being thus quite insufficient for the wants of the prioress and convent, fourteen in number, some of them were, it was recorded, compelled for the sustentation of themselves and the other nuns to incur the opprobrium of mendicity and beg alms, after the fashion of the friars of the nendicant orders. To relieve their distress to some extent, Richard II., being informed that the income was only 12*s.* per nnum, and taking compassion on the poverty of "Our beloved n Christ, the prioress and nuns of the House of St. John the Baptist, of Rothwell," in April 1386 granted the rectory of Desborough, then valued at 15 marks per annum, to the priory. rban VI. confirmed the grant, merely directing the bishop to eserve a fitting portion for a perpetual vicar. John Hurry, the hen vicar, however, considered the portion assigned insuffiient Among the papers of Boniface VIII. there was a ocument, dated 1392, relating to the question, and mentioning e foregoing facts as to the insufficiency of the priory's endowent. It was, moreover, therein stated that Richard Clare, arl of Gloucester, who founded the priory, died before he had ufficiently endowed it, and that, as he left no male issue, his atrimony was divided among his daughters, who neglected assign a fitting endowment. This statement could not ell be reconciled with the facts already given as to the arl of Gloucester, as Richard left a son, Gilbert, and Gilbert son of the same name. It was probable, however, that the lapse of about eighty years the failure of the male sue of Gilbert, the grandson, and the neglect of his sters to assist the priory on the partition of his estates, led this statement being made. In 1395 the number of inmates the priory had apparently been reduced, as in that year eight ns comprised the convent and agreed in the appointment of prioress. In the first year of his reign Henry IV. confirmed s predecessor's grant of Desborough rectory. From that me down to the date of its dissolution there seems to have en no permanent addition to the endowments of the foundaon, although from time to time pious or anxious-minded stators remembered the nunnery in their wills. The priory as apparently dissolved on July 14, 1536. From a return ade in May 1536 by Sir William Newhenham, John Lane, eorge Giffard and Robert Burgoyn, it appeared that the posessions of the priory consisted of Desborough rectory, of which iles Pulton was farmer, worth 10*l.* per annum; the profits of a rgate of land in the Rothwell open fields, of which John Lane was rmer, amounting to 10*s.* 4*d.*; and the site of the priory, with its chards and a close adjoining, given at 13*s.* 4*d*, but apparently ally 4*s.* In 1545 the site of the priory, with its gardens and close, ere held by John Lane, under a lease, whereby he paid 4*s.* arly for them, and he also held the virgate of land at a rental 10*s* 4*d.* No description of the priory and its buildings is be found, and what they comprised must therefore be left to re conjecture. In 1849 it became necessary to take down a nsiderable portion of the residence of Mr. J. M. Cole, known the Nunnery, and in the course of the excavations reired for the foundations of the new buildings, the position of e convent burial-ground was indicated by the discovery of merous skeletons. They were found lying at an equal stance beneath the surface, not more than 3 feet in depth, d in some instances two or more bodies occupied the same ave.

Mr. Bull also read a paper on the recent discoveries of Roman d Anglo-Saxon remains at Kettering. Mr. Bull's papers re followed with close interest, and he supplied the mpany with capital photographs he had taken of the six ief cinerary urns found in the Anglian cemetery at Kettering.

On the motion of Mr. E. M. Browne, seconded by Viscount elville, hearty thanks were accorded Mr. Bull for his papers.

An adjournment was then made for tea, after which

Mr. J. A. Gotch repeated his paper on "Some of the Great ouses of Northamptonshire," in which he dealt in characistic fascinating style with the history of some of the manns of the county, including Rockingham, Burghley, Dingley, ayton, Rushton, &c. A fresh point of interest in his address ated to the recent discoveries at Rushton Hall of ancient pers belonging to the celebrated Sir Thomas Tresham. me of those papers were calendared by the late Mr. John ylor. Within the last few years they had been handed over the Historical Manuscripts Commission, and some of them uld shortly be published. A very interesting collection had n found, and they shed a great deal of light on Sir Thomas esham, the triangular lodge at Rothwell and other examples his eccentricity. There was also a very interesting building eement between Sir Thomas and the mason who put up thwell market house. Students of Northamptonshire's tory would do well to keep their eyes open for that book, ich, he understood, would be issued in the next month or o. He had the opportunity of talking with the editress of papers, and was assured that the triangular lodge, accord to the Tresham papers, was merely a retainer's residence, a its curious construction had nothing to do with the use to ich it was put. Among the papers, too, was a letter from wife, which had been retained simply because it had on the k of it some of his queer figures and sentences. The ious bent of his mind was also shown in the building of Lveden, which exemplified the doctrine of the Passion by ng decorated with symbols of the Passion.

At the close thanks were accorded Mr. Gotch, on the motion of the Chairman, seconded by Mr. Bruce Muscott, and a similar compliment to the Chairman, proposed by Mr. M. H. Holding, ended a pleasing and instructive meeting.

BUILDING BY-LAW REFORM.

THE first annual meeting of the Building By-Law Reform Association was held at Grosvenor House on Monday, when there was a good attendance. In the absence of the Duke of Westminster, Sir William Chance presided. The financial statement for the year showed an income of 128*l.* and a balance of 13*l.* after the meeting of all liabilities. The object of the Association is to secure that official control of private buildings shall not extend beyond the demands of public health and safety, and thus to prevent encroachments on individual liberty. The report in one of its paragraphs says:—"From the first the Association has recognised the necessity for building regulations in places where the interests of public health and safety demand them; but in many cases the existing by-laws and regulations have gone beyond this need. It is not too much to say that in some cases the interference with individual liberty has become intolerable, and the Local Government Board seems itself to have realised this by issuing modified model by-laws for rural districts." The Chairman proposed the adoption of the report, and this was seconded by Lord Hylton, who spoke of his own experience of oppressive by-laws which greatly interfered with the building of better cottages in rural districts. Speeches were also delivered by Sir Edmund Verney, Mr. Mark H. Judge, Mr. Martineau, Mr. Shallcross, Mr. Storey, Mr. Clough, Mr. Thackeray Turner, Mr. H. G. Willink, Mr. Martin and Mr. R. A. Read, hon. secretary. The report was adopted and the Council for the year elected.

THE IROQUOIS THEATRE, CHICAGO.

THE Chicago calamity reveals a diversity of insurance application in the loss claims ensuing from the ignition of the theatre. Losses are generally paid promptly as soon as ascertained. Nineteen of the deaths were of persons insured in the New York Life to the aggregate amount of 39,736 dols. Of the number nine were female school teachers insured for 1,000 dols. each; some of them had pupils with them, who also perished. Nine of the insured victims were males. A public liability insurance carried under a binder of the Maryland Casualty—limit 5,000 dols. on one life and 10,000 dols. under one accident—is of a contract excluding for accident caused by fire, which brings in the question of panic as proximate cause of the personal accident. Rent insurance is put in a novel position through the closing of the theatre by the public authorities, and it may be some weeks more before it is ready for use, so increasing rent loss. The Fidelity and Casualty has several claims in process of adjustment; the first one paid was under the beneficiary clause.

One of the indemnificative features of the fire loss occurs through the circumstance that the "Mr. Bluebeard" scenery, costumes and great part of the electrical equipment were owned by the Drury Lane Company, of England, and leased by Managers Klaw & Erlanger, of New York, when the spectacle was brought to the United States In lieu of payment of duty a bond of 18,000 dols. was filed with the Government guaranteeing that the property would be re-exported to its owners within six months, and claims under the bond are therefore now due. The "Bluebeard" stage properties were insured by British underwriters, possibly to the amount of 8,000*l.*, the Drury Lane Company being the insured.

Fire loss has been adjusted upon the following bases of sound values, insurance written with 80 per cent. co-insurance:—

	Sound Values. Dols.	Losses. Dols.	Ins. Dols.	Claims. Dols.
Building . . .	311,114	58,247	185,000	43,296
Scenery . . .	3,810	3,810	3,810	1,500
Furniture and fixtures .	20,469	14,750	13,500	12,160
Rents	...	7,985	25,000	7,984
Total . .	...	84,792	...	64,941

New theatre regulations have just been issued for Chicago, and is said to be the most exacting of any city in the country, and is as follows:—

For every theatre there must be an adjacent public thoroughfare or fireproof passageway, separated from the building by a fireproof wall. The ordinance provides that all the doors shall open on at least two public or private unobstructed thoroughfares. They must have a fireproof passageway at least 5 feet wide, completely surrounding the auditorium and the stage. The theatre may be placed on any part of a piece of private property provided it meets the equirements of the ordinance.

A brick wall of the same width and strength that are required for an outside theatre wall must separate the stage from the auditorium, and all openings through it must have double iron doors. The opening of the proscenium arch must be covered by a steel arch, fireproof on the stage side, and must have nothing more than decorations on the audience side. A steel curtain must be constructed and hung according to the plans approved by the Commissioner of Buildings, and must be lowered before the beginning of the performance and between each act. It is planned to have the steel curtain in view of the audience at all times when the performance is not taking place.

Over each exit must be the word "Exit" in letters at least 6 inches high. In addition a red light must be placed over each exit and no red light must be used for any other purpose in the auditorium. Two experienced and competent firemen, under the jurisdiction of the fire marshal, must be in every theatre before any patrons are permitted to enter, and must remain until the last spectator has left the building. Each fireman is to be compelled to report daily to the department the condition of the theatre. These firemen are to be personally responsible for the fire apparatus of the theatre and the operation of the exits.

All equipment of the stage, and so far as possible in the auditorium, must be of fireproof material.

The stage must be provided with two systems of water protection from fire. The chief of police is to be held responsible for all overcrowding in theatres.

BRONZE AND ALLOYS.

A LECTURE on bronze and alloys was delivered last week by Professor Turner at the University of Birmingham. Bronze, he reminded the audience, was employed in very early periods. The Romans made statues in that metal after their conquest of Asia Minor, before which time wood or stone had been employed. Pliny was quite familiar with the use of bronze; he gave recipes for the mixtures to be employed, and the composition now used for such purposes does not very materially differ from that which was employed more than 2,000 years ago. The chief use of bronze apart from statuary was in naval construction and similar purposes, particularly for bearings and for bell metal. A great deal of attention had been devoted in recent years to the scientific investigation of the internal structure of bronze, and some very remarkable results had been obtained by observers, including Roberts-Austen, Haycock and Neville, from which it appeared that with certain bronzes of intermediate composition the metal solidified when cast, forming crystals of definite shape, but that after the metal is solidified an internal arrangement takes place resulting in a breaking up of the original crystals and the production of others of a different character. No doubt changes of that kind explained why it had been found best to quickly cool bronze, and why bronze, unlike other metals, could be annealed by quenching with cold water when at a red heat. In the alloys which were now more commonly employed it was recognised that there were at least two defined constituents, one of which was more or less pure copper and the other a brittle compound of tin and copper which surrounded the grains of the softer material. The whole art of successful bronze founding appeared to be summed up in the language of Schiller in the "Song of the Bell" as being the combination of the weak and brittle in suitable proportions. He also dealt with phosphor bronze, aluminium bronze and the other special alloys used in Birmingham trades.

APPRECIATION OF ART.

ON Sunday last Sir Oliver Lodge presided at a lecture by Mr. Whitworth Wallis on the "Art of Edward Burne-Jones," arranged by the Sunday Lecture Society at the Birmingham town hall. In the course of his remarks he alluded to the picture *The Star in the East*, by Sir E. Burne-Jones, in the Birmingham Art Gallery, which was considered one of the most splendid possessions of the city. In looking at that picture he said they should regard it as an event that had happened and not a mere imagination. In his opinion there was no scientific reason to doubt that something like it actually occurred, not, of course, as there depicted, but it was true that a child was born to a carpenter in that land, who, though of the humblest origin, had had an amount of worship and adoration paid to Him such as had been paid to no king, emperor or pope. And an event of that kind, the birth of a real King of the world, was not likely to occur without some indication before it. Events, the speaker said, do cast their shadows before them. When an event of emotional magnitude is coming the emotion is felt prior to the event by certain sensitive people. This fact, although it had been the basis of superstition in some cases, is coming to be recognised as a fact. With all great pictures, such pictures as Burne-Jones had painted, it was well to think over them and study them, and try to realise the meaning of the artist, because he always had a meaning. If they merely glanced at a picture they did not in the slightest degree get to the bottom of what was meant. Art should be looked at from the point of view of life, and an attempt should be made to ascertain the meaning o the artist. He might not be understood, but it was a mistake when we did not understand a great man to suppose that h meant nothing. There was, however, another way of regarding art, not as a thing for galleries alone, but as a thing for daily life. They would find in the chapel of Exeter College, Oxford a picture of the same event, executed according to the design of Burne-Jones by William Morris, and it was interesting t compare the picture and the tapestry in memory when looking at either, for they were not quite identical. He recommended them to read the life of William Morris, and realise the strenuous energy which he put into all his work.

GENERAL.

The King, in connection with his inspection at Osborne has given directions for the following appointments as Companions of the Imperial Service Order:—Rowland Bailey, M.V.O., Controller of Stores, H.M. Office of Works; Edward George Rivers, Chief Engineer, H.M. Office of Works; Henry Nicholas Hawks, Architect and Surveyor, H.M. Office o Works.

The Competitive Design by Mr. D. Forbes Smith A.R.I.B.A., architect to the Dysart Burgh School Board, ha been placed first by the assessor and accepted by the Kirkcald Burgh School Board for an elementary school of two storey to accommodate 1,000 pupils, including cookery and laundr departments.

A General Meeting of the Quantity Surveyors' Association was held on Wednesday, March 2, in the Throne Room Holborn Restaurant, at 2 P.M., to confirm the proposed memorandum and articles of association.

Messrs. Dinwiddy & Sons have found for the convenience of provincial and other clients it is necessary t extend their Westminster offices at 54 Parliament Street, an one of the partners will be daily engaged there, the presen staff at Greenwich remaining unchanged.

Mr. G. Gilbert Scott will exhibit and explain abou twenty drawings of the Liverpool Cathedral at a meeting of th Liverpool Architectural Society on Monday. A testimonia will also be presented to Professor Simpson.

New Buildings for the Prudential Insurance Company ar about to be erected in Brighton from the designs of Mr. Pau Waterhouse.

The London County Council will apply for authority t acquire compulsorily about 200 acres for works connecte with the main drainage and sewerage of the Metropolis. Th proposed works are intended to provide for the purification o the increasing volume of sewage flowing from the area of th Metropolis on the north side of the River Thames, and fron certain extra metropolitan districts which also drain into th Northern Outfall Sewer.

The Home Secretary has stated that he cannot fix a dat for the introduction of the Bill to amend the law of workmen' compensation. The committee appointed to advise him in th matter are hard at work and have nearly concluded the takin of evidence They will lose no time in considering thei report The question as to what trades the provisions of th Workmen's Compensation Act shall be extended is one of th subjects under the consideration of the committee.

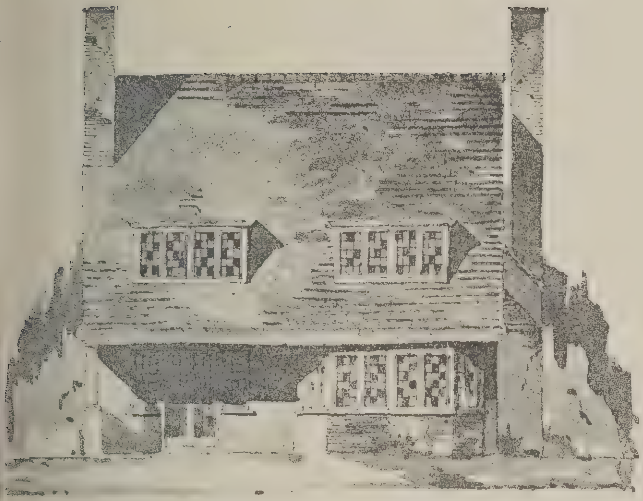
A Lecture describing the history and architecture of S Bartholomew the Great, West Smithfield, will be delivered i the church on March 12 and March 19 at 8 o'clock. All part of the church will be thrown open to visitors without charg A collection will be made in aid of the purchase of the cloister which have now been secured.

The Late M. Victor Baltard was commissioned in 185 to design the cradle which the City of Paris prepared for th Prince Imperial at a cost of 160,000 francs. After the fall the Empire it became the property of M Franceschi Pier He has now offered it to the City of Paris, and the gift ha been accepted and will be placed in the Musée Carnavalet.

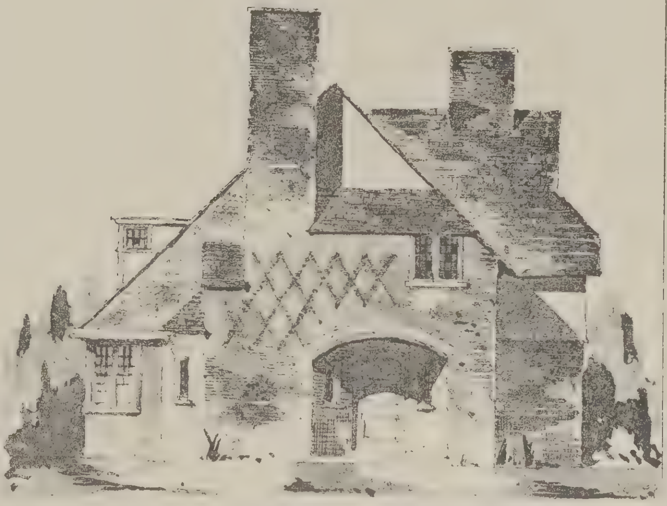
The Trustees of the British Museum have sent a petitio to Parliament, in which, after reciting the various funds belonging to them point out that the expenses of their establishment far exceed the annual produce of these funds, and pra the House to grant such further support to carry on the execution of the trust reposed in them by Parliament for the genera benefit of the community in the promotion of knowledge an useful learning as to the House may seem just.

HOUSE AT SEAFORD.

W.G. WILSON, A.R.I.B.A.
ARCHITECT.



GARDEN FRONT SOUTH.



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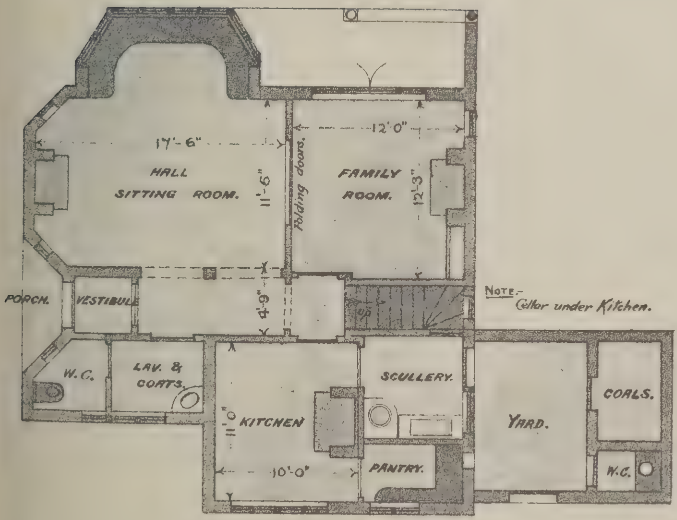

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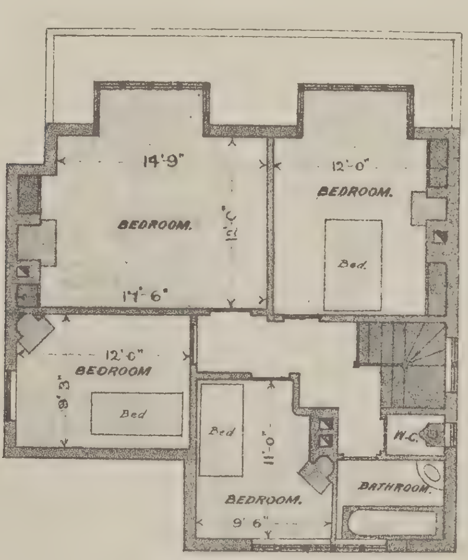

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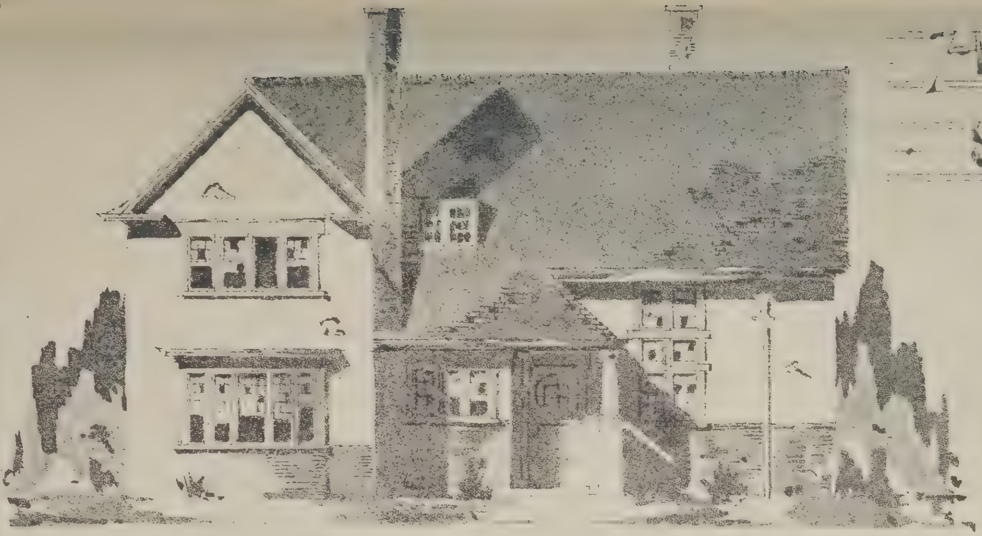
House at Eynsford.

W.G.WILSON, A·R·I·B·A·
ARCHITECT.



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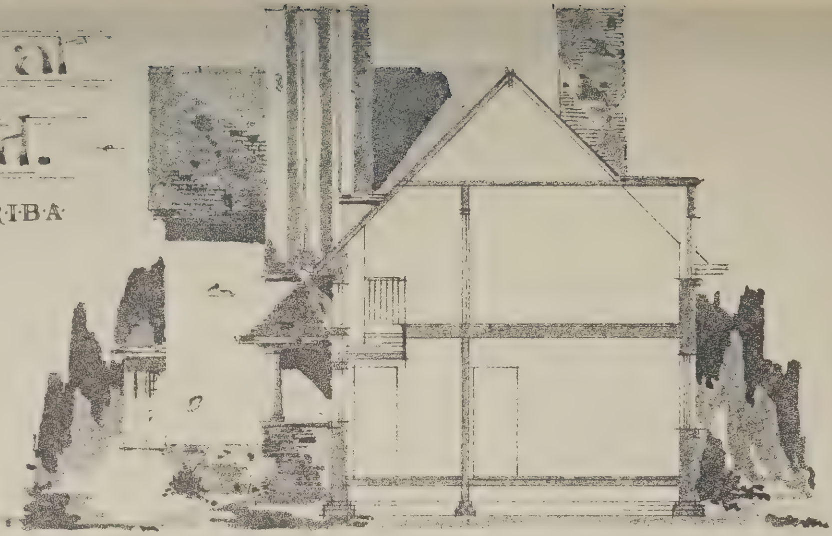

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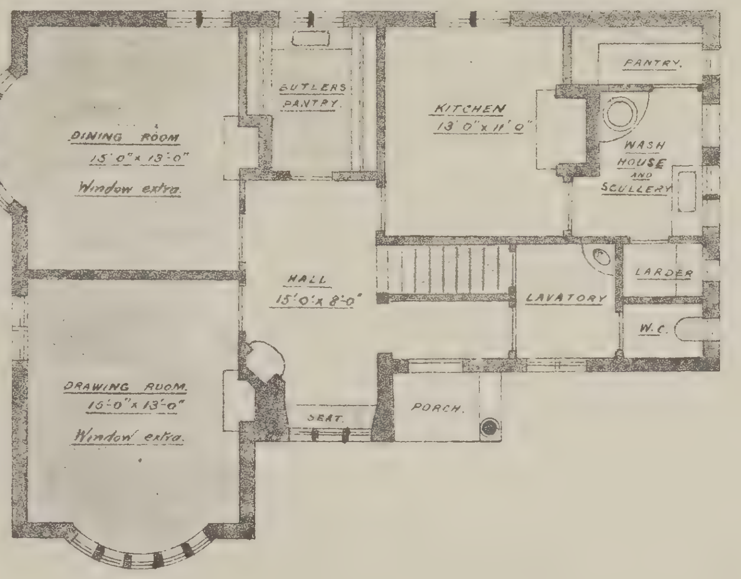

— GROUND FLOOR PLAN —

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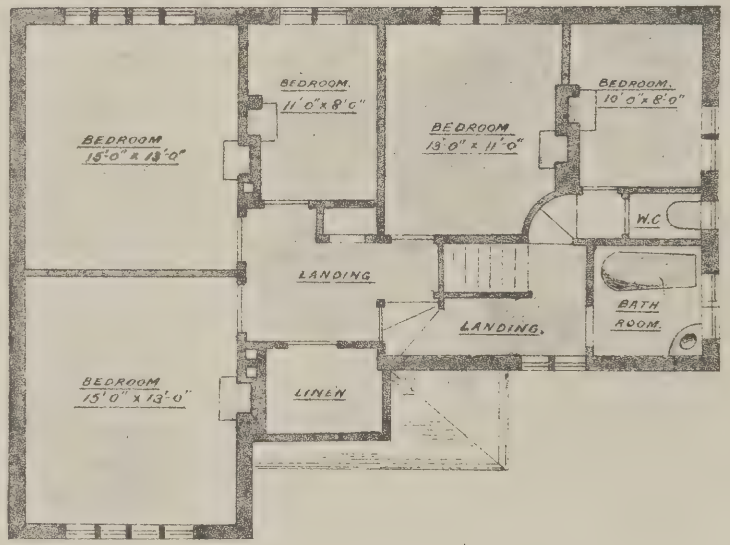

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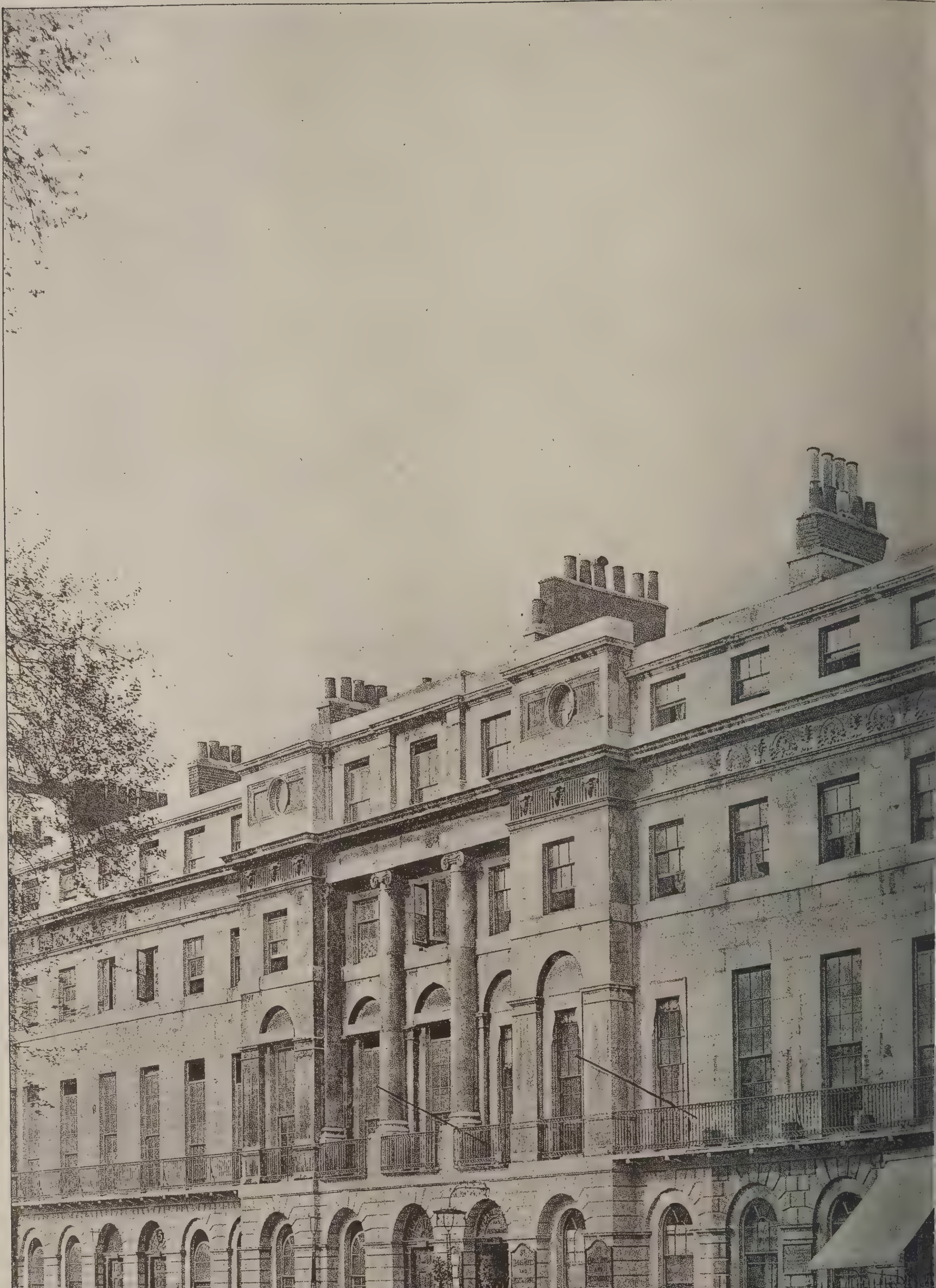

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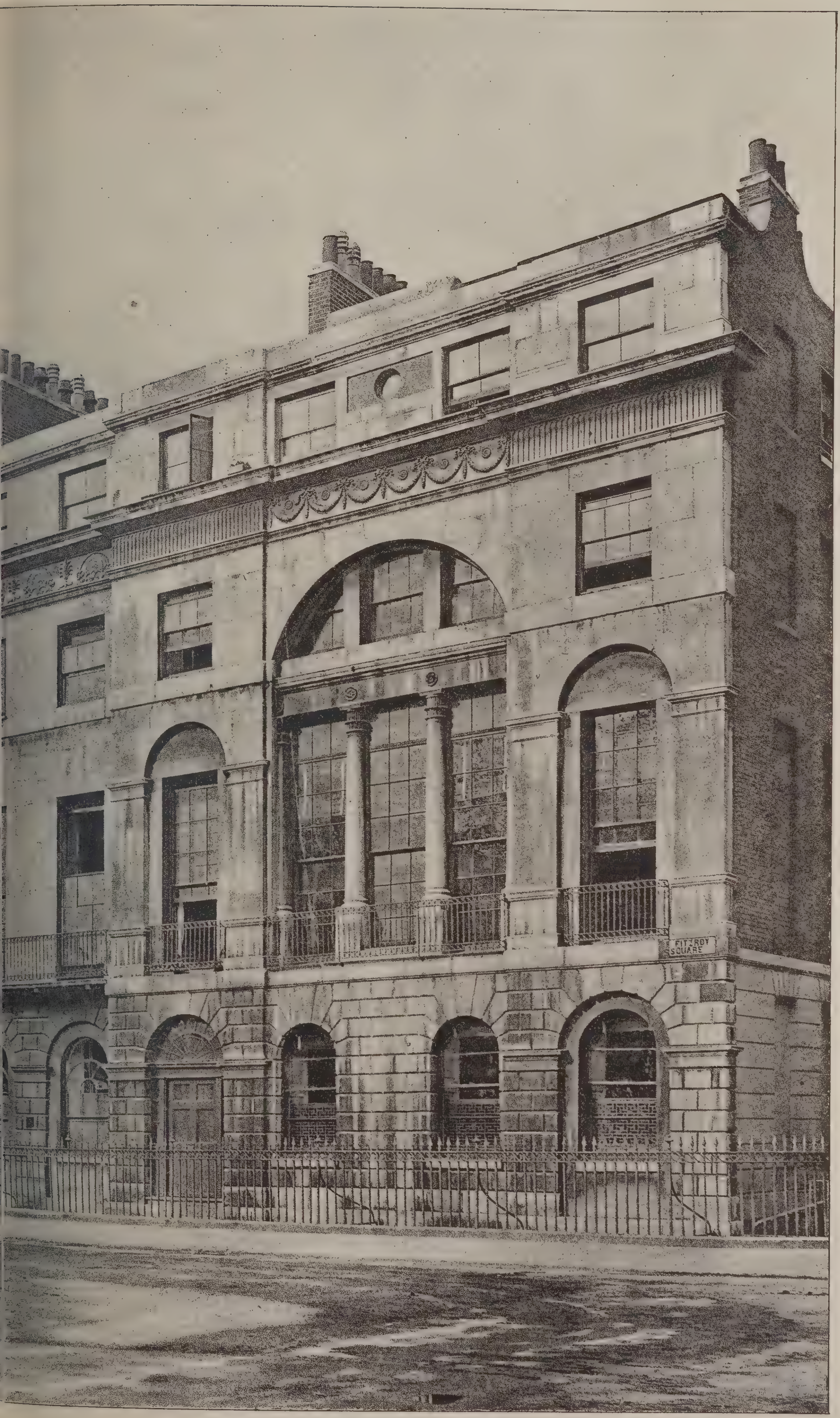

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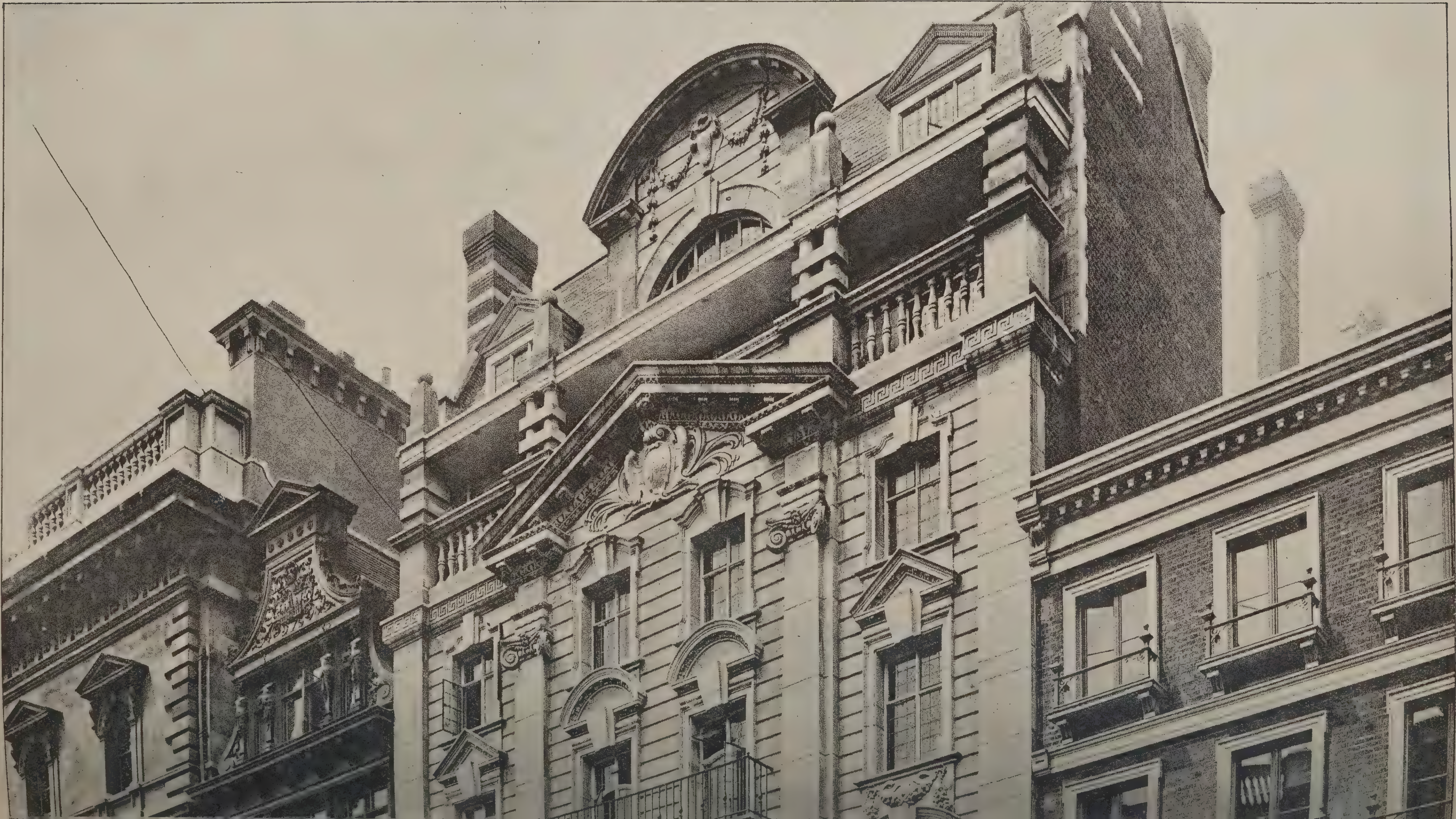

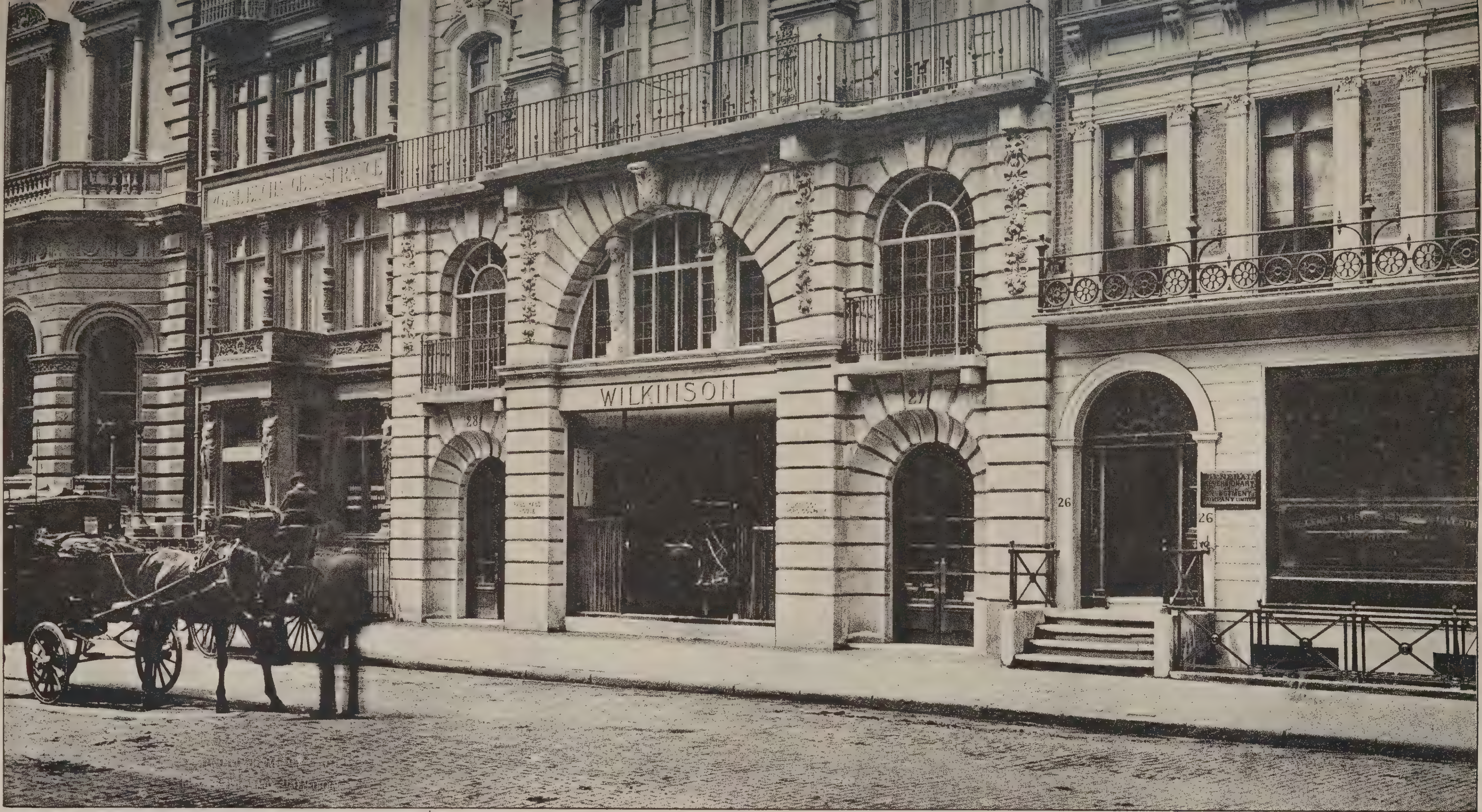

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WILKINSON'S SWORD COMPANY'S PREMISES: PALL MALL FRONT.

ALFRED WILLIAMS, Architect.

OF THE
UNIVERSITY of ILLINOIS

The Architect.

THE WEEK.

The project for the erection of a new infirmary for the Steyning Board of Guardians has advanced another stage. Plans have been altered by the architects, Messrs. Clayton & Black, of Brighton, and the following general estimate was submitted on Tuesday: Each infirmary pavilion (two floors, providing for sixty bedrooms, day-rooms, bath-rooms, nurses' duty-rooms and offices), 5,000*l.*; nurses' home, containing accommodation for thirty two nurses, 5,500*l.*; maternity ward, 2,000*l.*; surgical block, 1,200*l.*; small isolation hospital, 1,200*l.*; padded rooms, with accommodation for attendants, 500*l.*; mortuary and post-mortem rooms, 250*l.*; married couples' quarters, 650*l.*; boundary walls, road and paths, 1,200*l.* The total outlay will be at least 38,000*l.* It is anticipated that 20,000*l.* could be obtained for the workhouse now used and the site. The balance required will have to be raised by paying 3¾ per cent. It is thought a large undertaking for a district like Steyning. The Guardians decided to accept the project, but to ask the works committee to again consider the extent of the accommodation required for patients and nurses.

Few districts of London have been more changed than that part of Westminster which is in the vicinity of the Houses of Parliament. Parliament Street was narrow, and near it were Cannon Row and Manchester Buildings where Irish members used to congregate. Sir Charles Barry proposed that the offices of the India Board should be placed there and surrounded by a public garden. The reconstruction of Westminster Bridge and the opening out of an extension of Victoria Street made further alterations necessary. It indicates the extent of the change when we find that in 1901 no evidence could be obtained about the manner in which the western part of Parliament Street had been purchased and the right to use it acquired by the Commissioners of Westminster Bridge. The crossing at the junction of so many great highways is one of the most difficult to manage in all London, especially as it is believed the road must always be kept clear for members of Parliament. All the ground in the neighbourhood is valuable, and the London and North-Western Railway Company must have paid in 1886 a large sum for premises at the corner of Parliament Street and Bridge Street which they rebuilt as offices. In the middle of Parliament Street the Westminster Corporation erected public conveniences approached by staircases. One of the entrances was opposite the doorway of the railway company's offices. In order to make it, it was necessary to encroach 2 feet 9 inches on the footway. The company claimed that the footway was part of their property. The approach was connected with another subway which had been used to facilitate passenger traffic. The company sought an injunction against the Corporation to prevent the latter from continuing their trespass. It was heard by Mr. Justice Joyce, who expressed doubts whether the footway really belonged to the company, and therefore he did not consider that any order he might make would be of advantage to the plaintiffs. An appeal was made, and on Tuesday their Lordships decided that the Westminster Corporation had no right to construct a subway, however useful it might be, and that they had trespassed on the plaintiffs' property. The injunction was granted, but the order was suspended for two months to permit of an appeal to the House of Lords.

There are wheels within wheels according to the common saying, and in the same way there are trades unions within trades unions. At the present time the Courts, or at least the House of Lords, as the highest judicial body, are disposed to allow an extraordinary amount of liberty to those organisations. Formerly there used to be one union to represent a trade, but now the liberty can be exercised of forming several. A workman must therefore often find a difficulty in knowing how to act. One instance has been investigated at length before Mr. Justice Grantham and a special jury. A painter, who was a member of the City of London Society of House Decorators and Painters, and was therefore a legitimate workman, sought to recover damages from a branch of the Amalgamated Society of House Decorators and Painters for obtaining his dismissal from the employment of Messrs. G. Wright & Sons. That firm had agreed to employ men alone who were members of the Amalgamated Society. But the plaintiff refused to join it, because if he did so he would lose the benefit derived from membership of his own union. Counsel for the defendants maintained that the members of the Amalgamated Society were within their rights when they refused to work with men not belonging to their organisation. That might be selfish conduct, but it was perfectly legal. Mr. Justice Grantham said that trades unions would not be injured by acting legally, and it was illegal to try to prevent a man from doing the best for himself. The questions left to the jury were:—1. Did defendants conspire to obtain the dismissal of the plaintiff because he was not a member of their union? 2. Was the plaintiff dismissed from his employment because of the action of defendants? 3. Did the plaintiff lose work, and what were the damages? The jury answered the questions in the affirmative, and judgment was accordingly given for the plaintiff, with 25*l.* damages. The case may be carried further, but we hope the result will be the same. If every petty trade society can assume autocratic power, then we shall have the phenomenon of a handful of men paralysing business operations on a great scale. Trades unions have their use, but if they are to be split up into sections, and if each section can assume the powers claimed by the Amalgamated Society, the whole of a man's wages would be expended in endeavouring to buy the privilege of being permitted to work.

The Portsmouth Town Council lately made an heroic effort to elevate a building site by declaring that the roads must be at least 9 feet above Ordnance datum. The decree caused much commotion in the town, and it was necessary to hold an inquiry by inspectors of the Local Government Board to hear objections. As a result an official recommendation has been sent to the Council advising that from the new building by-laws clauses dealing with the levels of new roads should be withdrawn. It appears that already the Corporation by an Act passed in 1883 can determine the level of anything which does not exceed 30 feet above Ordnance datum, subject to an appeal to Quarter Sessions. The clause relied on is the following:—"Every person who shall lay out a new street shall lay out such street at such level as will afford the easiest practicable gradients throughout the entire length of such street for the purpose of securing easy and convenient means of communicating with any other street or intended street with which such new street may be connected or may be intended to be connected, and as will allow of compliance with the provisions of any statute or by-law for the time being in force for the regulation of new streets and buildings, and the Corporation may require the intended level position or direction of any new street or any part thereof to be varied or altered for the purpose of securing and so as to secure easy and convenient means of communication with any other street or intended street with which such new street may be connected or intended to be connected. The Corporation shall make reasonable compensation to any owner of land for any injury sustained by him by reason of any variation or alteration of the intended position or direction or level of any new street or any part thereof, in pursuance of any requisition by the Corporation under this section." It remains to be seen, however, whether the land at Great Salterns can be raised at the expense of the owners. Portsmouth suffers from the extent of land at a low level on which buildings have been erected, and it was proposed to initiate a new condition by improving a large area of ground by raising it to a higher level than ordinary. Originally Great Salterns was reclaimed from the sea, and the cost of heaping up the ground would be so large it could only be repaid by having houses more expensive than the majority of those in Portsmouth.

THE LATE ALEXANDER STUART MURRAY.

The death of Dr. Murray on Saturday last, in his sixty-fourth year, not only deprives the British Museum of an efficient keeper of the Greek and Roman antiquities; it is also a loss to archæological science. For the maturing of a scholar of his capacity much is required. Without a long course of training and practice, explorations, travelling and controversy, it would be impossible to obtain that familiarity with the past which is desirable. Men like Dr. Murray are now as indispensable as if they were diplomatists, for they serve as national representatives in one field. There is a constant intercourse between official archæologists of all nations, and a country suffers unless it possesses a man capable of sustaining all the attacks which can be made by rival experts. As keeper, Dr. Murray was ready to encounter all opponents, and held his own with the archæologists of France, Germany, or Greece. The best proof of his success is the weight universally accorded to his conclusions.

He was born near Arbroath in 1841, and received his scholastic education in Edinburgh. Then he went to Berlin, where he obtained his first insight into classical antiquity. German influences were always powerful with him. In 1867 he became an assistant in the department of which at a subsequent period he had charge. The keeper of the time was Charles Newton, who had been fortunate in winning a reputation by his discoveries at Halicarnassus, Branchidæ and elsewhere. Much less organisation existed in that division of the Museum than in the others; and Mr. Murray, who was not only systematic, but a lover of detail, was an acquisition. His labours were continuous, and he acquired a marvellous familiarity with every single object relating to Greek and Roman antiquities which was entrusted to his charge. He had to revise the imperfect catalogues then issued and to bring out substitutes. By all these processes he gained a most exact knowledge, not merely of the contents of his department, but with their relations to similar objects in foreign museums. It would be difficult to name a man who corresponded so little with the ordinary notion of an English official. He went through all his work conscientiously, and indeed sought after toil for its own sake. This was evident to all who saw him preparing the volumes of inscriptions. He was proud of the Museum, and some of his characteristics as an archæologist were mainly owing to the fact of holding a position on the staff.

In his eyes, no collection in existence was so valuable as the one which engaged his attention every day. There was no sculpture in the world which he would admit as comparable to the Parthenon marbles. They formed the standard by which all other classes of the art were judged and which, it is needless to say, were found wanting in merit. He differed, for instance, from most amateurs and artists in his estimate of the *Venus of Milo*. We had no similar statue to compete with it. No doubt that work would have gained enormously in his eyes if it could be transferred to the British Museum. The exquisite Tanagra figurines were allowed to pass into various museums and private collections abroad instead of reaching the British Museum. Dr. Murray characteristically consoled himself by declaring they were not products of a high ambitious art, their charm being their novel simplicity. The *Hermes* of Olympia, which revealed to our generation the genius of Praxiteles, was described as if it were inspired by the figures of Athenian youths forming the Parthenon frieze. We are, in England, unfortunately deprived of any adequate examples of Greek painting. But Mr. Murray would have it that substitutes could, in a great measure, be supplied by the vases in the British Museum. In describing the Leschè paintings by Polygnotus, he remarks:—"We venture to think that a far more just appreciation of the work of Polygnotus would be obtained were we to abandon the idea of collecting vases with suitable subjects and set ourselves rather to selecting designs which would illustrate the style of the painter. In such a task the Athenian lekythi would come readily to our aid. On them the designs are painted on a white ground identical in appearance with the ground of the old frieze paintings. The colours employed are probably much the same as those used by Polygnotus. The subjects are of the same melancholy cast as on the paintings of the Leschè. The painters of these vases had much of the freedom and scope which the fresco-painters enjoyed." Beyond all doubt a great deal of the popularity attained by the Museum of late years is to be ascribed to the writings of Dr. Murray, in which its completeness as a treasury of ancient art is demonstrated.

By means of articles in periodicals and journals the reputation of Dr. Murray became known outside the limits of the Museum. It was not, however, until after the resignation of Sir Charles Newton in 1885 that his power as an administrator was manifested. Newton was proud of his own discoveries, and he desired that visitors to the British Museum should be always impressed by some of the results he had secured. The entrance-hall in consequence was arranged as a Newton memorial, with sculpture from the explorations along the coast of the Levant, and the connection between various schools of sculpture ceased to be evident. Dr. Murray's efforts were directed to an arrangement which will be suggestive of the history of art. A plan of the kind could with difficulty be carried out while the collections were open to the public. But the end may certainly be said to be achieved. In spite of the restricted space and other obstacles, a journey through the Greek and Roman departments affords an amount of instruction which would be believed impossible some twenty years ago. Dr. Murray never allowed his office to be considered a sinecure, and he was always endeavouring to make the galleries more expressive.

Besides the large amount of literary composition which his duties as keeper entailed, Dr. Murray wrote several books and essays. In 1872 he adapted "Der Olymp" of Petiscus for English students. But he subsequently compiled a smaller manual of mythology, which he considered of far more utility. His "History of Sculpture," in two volumes, was a revelation to many, not only as to his own speculations in the history of art, but of the theories of the Germans on similar subjects. It is easy to see from the pages he was not entirely impartial. In 1887 he consented to give the Rhind lectures in Edinburgh, which became the basis of his "Handbook on Greek Archæology." In the pages there is constant reference to the Greek collections of the British Museum. He also brought out a small volume on bronzes. Last year we reviewed his "Sculptures of the Parthenon," a monograph which represented the continuous study of nearly forty years. The Royal Academy utilised Dr. Murray's knowledge for courses of lectures on ancient sculpture. This year, owing to illness, he could not deliver the last of the series, and the manuscript was read to the students by a friend.

It must not be presumed that Dr. Murray was one of those votaries of antiquity who are overpowered by their imagination, and therefore close their eyes to defects whenever they arise. A man occupying a position like that of a keeper in a museum is soon convinced that dishonesty is not afraid to utilise ancient art for base purposes. He must conclude a like practice prevailed at all times. There existed a good deal of scepticism in the nature of the late keeper. This will be seen in some of the articles he wrote when Dr. Schliemann's discoveries at Hissarlik were announced. It is also evident in his observations on the sites of ancient cities which he visited. The following description of Olympia as it is, taken from one of his articles in *The Architect*, will suggest what we mean:—

> Olympia was in no sense a town, but strictly a show place, and that only for a short period every fifth year, when, during many centuries, all who could avail themselves of the opportunity crowded to it to see the competitions of skill in physical exercises, or perhaps to hear such as Herodotus read aloud his history of the Persian wars, with its innumerable digressions on the character of other nations. What strikes one is that he could not have had a large number of listeners, if the place which tradition assigns to him as the scene of his reading be correctly assigned. For not only round the Temple of Zeus, but throughout the Altis, or sacred grove as it had once been, the ground is more or less crowded, even now, with the remains of temples and statues. It is true that not a few of them are later than his time; but, for all that, we cannot imagine even then room for such an audience as we would naturally suppose him to have had. In the crowded condition of this Altis, and even the ground immediately beside it, there must have been some regulations for the admission of the public during the festival; if, indeed, the public in general

cared for temples, altars and statues. At present the visitor is attended by a guard, and the silence which reigns everywhere may not be unlike that which in antiquity was only broken by the stir of artists and workmen, or by the ceremonies of daily sacrifice, except in the short period of the games every fifth year, when the whole valley was alive. In point of fact, the artist who worked for Olympia had to be content with the knowledge that, at the best, his work could only appeal to a very limited number of his countrymen, and these, perhaps, not always the most capable of judging of its merits. No wonder the story got ear that Phidias, when he had completed his statue of Zeus, appealed to the god himself as the best judge, and was answered by an affirmatory thunderbolt. On the other hand, there is also the tale of his having concealed himself to hear the criticisms of the first visitors, and having so altered his figure as to make it suit the desires of the majority, believing as he did that there was wisdom in a multitude of counsellors. Still, the fact remains that, as an ancient writer described it, the Zeus of Phidias was out of sight in the wilderness of Olympia, except for a short time every fifth year. No doubt ancient sculptors had to be satisfied with few admirers for the most part. Even the Acropolis of Athens was not a place where everyone could go at any time, nor were Greek temples generally places of resort to the extent of modern churches. Yet there was a marked difference between the comparative seclusion of the Acropolis at Athens and the almost completely sequestered condition of Olympia. To Phidias, with his creative power, that might not much matter; but to other artists it might count a good deal, and, in fact, it might explain why the sculptures which have been obtained from the Temple of Zeus are so very unsatisfactory. Evidently the mind of a great artist has been employed upon them. The difficulty is to determine where he had left off—whether he had only supplied sketches or small models. There is no trace of his hand, nor even of his superintendence. For the most part the proportions are as far wrong as they well could be, while the drapery is simply repulsive. Yet in the types of the figures there is a nobility of conception such as characterised the highest Greek art in the period immediately before Phidias, and endured perhaps throughout his time.

A painter would represent Olympia with proportions of space worthy of its renown. Dr. MURRAY preferred to be guided strictly by what he saw. In the same way he assumed that a primitive terra-cotta urn elliptical on plan was a model of the primitive houses of Greece and Italy. It was easy to conclude that the beehive tombs were also imitated from the original dwellings, and then he joined with SEMPER in imagining "that those vaulted chambers which in the early period had been employed for subterranean buildings were, in the culminating stage of Classical architecture, raised to the tops of buildings, and thus furnished the principle on which were constructed the gigantic domes of the Pantheon in Rome, and later the dome of Sta Sophia in Constantinople." He was always on the look out to explain difficulties by objects which at first sight might appear to be formed on another principle. The shield of ACHILLES, for instance, was long regarded as an interpolation in the "Iliad," and derived from a work of a much later character. But the appearance of the Balawat Gate in the British Museum at once suggested that what was possible in Assyria could be attempted in Greece. A student who reads Dr. MURRAY'S books with care will discover that they present to him many opportunities for drawing conclusions by means of data unknown to the archæologists in the earlier part of the nineteenth century. His writings, however, demand close attention. His calligraphy was remarkably minute, and as he could introduce a great many sentences on a page of paper, he also endeavoured to condense his expressions within the narrowest compass. He hated diffuseness in all forms. The extract we have given about Olympia could easily be expanded into several chapters. Dr. MURRAY preferred to compress the information into a single paragraph. In his manner of writing he believed he was acting on the principle shown in Greek sculpture. As he contributed a great many articles to *The Architect* it will be found that several of his theories were announced in the pages of this Journal for the first time. We have satisfaction in knowing that they accomplished their end, for Greek and Roman archæology now stands in a different position, and inquiries into antiquity receive more attention than was possible a few years ago. Much of this is due to the efforts made by foreign Governments, but some credit should be accorded to the able scholar who passed away on Saturday, to the regret of all who knew him whether as an official or a friend.

EDINBURGH: A STUDY IN "IMPROVEMENT."

By A CORRESPONDENT.

IT is plain that the question of urban reform on model or garden-city lines has made its way to the front when we find one after another of our legislators asking in Parliament whether opportunity will be taken at Rosyth, the new naval base on the Firth of Forth, to build a town upon scientific lines, such as those laid down by Mr. EBENEZER HOWARD. True, the answer did not convey very much; and, in any event, it may be doubted whether the destiny of Rosyth will affect the real issue, as to the feasibility of applying Mr. HOWARD'S, or, indeed, any other "model" principles to our present great centres. Passing that by, however, it may not be amiss to ask how the vital question of "improvement" has been faced in the past, and we take the case of a city whose experience upon that head is almost unparalleled—the city of Edinburgh.

We may premise that Edinburgh owes the almost dramatic series of changes undergone by it largely to the rugged nature of its site, whence the impossibility of normal growth, such as that of London or Glasgow, and the necessity for bridges and other works upon an extensive scale, to take but one class of improvements. And we might add that Edinburgh is the more striking picture of the way a city adapts itself from age to age, because so much of the old survives and is in touch with the new.

Without dipping very deeply into the past, a few words may be said with reference to certain features in the earlier growth of Edinburgh, in so far as they form a clue to its later developments. The neighbourhood of the Castle, a stronghold dating back to Pictish times, and the native strength of its site enabled the city, of which there are traces in the twelfth century, to do without a wall for hundreds of years, until in 1450 the citizens got a royal warrant to build themselves a wall of enceinte against the English raiders, whose attentions had hitherto discouraged the growth of the burgh. Thus girdled, Edinburgh, paradox as it may seem, began to spread to purpose, for the citizens, as they have often done since, became fond of having their houses outside the royalty beyond the wall, and the suburb of the Cowgate Street sprang up. But on the alarm of Flodden, in 1513, the dwellers in the suburb, the best people in Edinburgh, hastily encompassed themselves with a battlement, which was pierced at leisure by many fortified gates, called "ports," and through these ports, as the space within the walls became more fully possessed, the town gradually shot a little way into the country.

To all intents and purposes, however, Edinburgh abode within the Flodden wall for the next 250 years, during which, if the city grew, it was by covering every available inch of ground with high-piled houses—the "lands" of Edinburgh—thus paving the way for the evils which still beset the Old Town in the present day.

Coming down to the middle of the eighteenth century we at length find the city breaking bounds on more than one side, and the New Town springing up to the north, by the enterprise of the citizens who were tired of life in the closes of the Old Town. To understand this we have but to picture the long line of Canongate and High Street bristling along its ridge from Holyrood Palace upwards to the Castle, and flanked by towering, brown freestone tenements, pierced by squalid, thick-set closes shelving on either hand to the Cowgate and the valley of the North Loch. Down the centre of the causeway coursed the "ancient river Tumble," to all intents and purposes a common sewer; yet the High Street was a fashionable promenade and the residential quarter. The "lands," as the separate tenements were called, were divided from one another by thick party walls, and ranged up to thirteen storeys high; and in each land, up a dark and dirty staircase, all ranks were herded under the one roof, commoners in the upper and lower flats, gentlefolk in the fifth and sixth storeys. The squalor of the closes and of the town in general is past belief, and FLETCHER of Saltoun, writing in 1698, affirms that "the situation of Edinburgh has been one great occasion of the poverty and uncleanness in which the greater part of the people of Scotland live." Sir GILBERT ELLIOT of Minto, a great improver of his day, wrote in the middle of the eighteenth century that the state of Edinburgh was a disgrace to Scotland, and that it was not wonderful that the best families preferred London or their country seats to the cramped and wretched conditions of residence in the capital; or that trade languished and local prejudices flourished amain. To extend and beautify the city and to adorn it with buildings, both public and private, he adds, would confer a boon on the whole nation.

Improvement was in the air and the moment a favourable one, from the thriving state of trade since the Forty-five and the fact that many parts of the city lay in ruins or were ripe to be pulled down. Accordingly in 1767, after much opposition (chiefly on the plea that the Old Town would be thrown into the background), the New Town began to rise in parallelograms upon the plan of James Craig, nephew of Thomson the poet, and one of several architects consulted. But it cannot be said that the policy of the magistrates favoured the growth of New Edinburgh, large as were the sums spent by them in preparing the site and in building (by subscription) the North Bridge across the valley between the towns. The Princes Street feuars had hardly built their houses upon the faith of Craig's plan, which showed an ornamental water, terraces and gardens in the valley before their doors, when they saw the reserved area rising in mean buildings, and a costly lawsuit, ending in the House of Lords, was necessary to save the sacrifice of the whole valley by the magistrates. Then the new streets went unwatched and unlit; but the worst blunder of all was the leaving space for the citizens to build elsewhere, in the shape of the George Square area, outside the royalty to the south, and therefore free of taxes, and thus preferable to the New Town, with its public burdens and crazy bridge. This the magistrates allowed to be snapped up under their noses by a pushing builder, and here a rival and very fashionable new town quickly arose.

The New Town proper felt the rivalry of another southern district, which became acute about the time of the building of a great South Bridge over the Cowgate valley for the convenience of the suburb in question; for those who wanted the bridge wanted it to be paid for by the city, the South Bridge itself to be toll free, and they further demanded that the suburb should remain outside the royalty as before. The latter item alone must have been deadly to the prospects of the New Town by leading citizens to prefer a suburb enjoying all the advantages of the city less its taxes, and the scheme was indignantly shouted down. This is but a specimen of the partisan spirit in which the improvement of a city, that after all owes more to luck than good guidance, has too often been approached.

It would be beside the mark here to enter into any analysis of the New Town from an æsthetic point of view, though we may quote Lord Cockburn on the subject:—

> There were then probably not six houses in George Street, nor twenty in the whole New Town, in which an unbroken surface of vulgar slate did not project over the front wall. . . . Every conception, except of straight lines cut rectangularly into equal spaces, and of every thirty front feet being covered with the plainest and cheapest houses, seems to have been excluded. It will take years and the cost of building about a half of the original New Town to lessen the baseness of the first idea.

Prophetic words!

The nineteenth century saw a marked revival of architectural taste in Edinburgh, particularly when peace threw open the Continent to travel and study, while growing wealth and a change of manners helped on the same end. We have Lord Cockburn's word for it that "there were more schemes and pamphlets and discussion and anxiety about the improvement of our edifices and prospects within ten years after the war ceased than throughout the whole of the preceding 150 years." Just to explain the type of architecture that came into vogue as the New Town grew westward and northward, we may employ Professor Baldwin Brown's summing up:—

> It was William Playfair and the body of architects who worked side by side with him from about 1820 onward, who gave us our typical street elevations of the Classical type. The effect may be somewhat cold and regular—especially to those who lack any appreciation of Classical forms—but the work has undoubted dignity and style; it is in a word architecture.

Great as was the zeal shown at the time for the "improvement" of Edinburgh, there was much less regard had to the mere beauty of the city, even by its natural guardians the magistrates. Venerable buildings were almost as ruthlessly swept away as the trees—Edinburgh was then rich in trees—at whose fate at the hands of the masons in those days Cockburn waxes indignant. One piece of bad taste on the part of the magistrates—that of feuing ground for a high block on the open south side of Princes Street—calls for notice, as it was the means of provoking a protest before the Courts at the instance of the first public meeting ever held for such a purpose. And though the protest failed, it was not thrown away, in so far as it gave the magistrates a fright, and helped to create a feeling for the beauty of the city. A leading part in the fray was played by Lord Cockburn, whom we name, not only on account of his lifelong interest in the beauty of Edinburgh, but because in 1875 the Cockburn Association was formed to carry on his work by watching over the amenity of the city, by fostering the provision of the means of healthy recreation, and by using its influence with all who can promote such ends. Lord Cockburn, in a pamphlet written in 1849, and rather scathingly entitled "A Letter to the Lord Provost on the Best Ways of Spoiling the Beauty of Edinburgh," rates the citizens for their past apathy in view of such a proposal as that of the magistrates for turning Princes Street into a common thoroughfare by building in front of it, or of the scheme, actually carried out to some extent, for filling in the valley between the Old and New towns because of the valuable sites thus obtainable. Both of these iniquities were happily laid to rest in the course of the great controversy over the

Edinburgh Improvements.

During the second quarter of the nineteenth century Edinburgh was turned upside down in more than one sense by the great improvement scheme which took shape in 1827, and whose purpose was to facilitate intercourse between the various parts of the city seated upon its triple ridge, and particularly to open up and otherwise benefit the Old Town. The city, cut into three by two lateral valleys, had but one decent line of intercommunication, *viâ* the North and South Bridges, to which the improvement scheme now added a new south approach (George IV. Bridge) from the southern suburbs to the Old Town, and also a west approach (Johnstone Terrace) from those lying to the west. These works, by which the face of the Old Town was greatly changed, were necessitated by the badness of the ancient approaches to that part of the city, whose inutility, patent enough when the Old Town stood alone, was now the more marked in their capacity as arteries of Greater Edinburgh. "They seem to have been planned," writes Lord Cockburn, "or rather used—for there was no planning about them—not so much for the convenience of the people as with a view to keep enemies out. Narrowness, crookedness and steepness were the principles of them all."

The twofold improvement scheme was long and strenuously opposed, partly on the score of the heavy assessment involved and the likelihood of its being heavier still, as indeed proved to be the case, and partly on the plea that it was impossible to lift the Old Town from the depression into which it had been flung by the rivalry of the New Town—so surely had the latter become the centre of both public and private life. The passage of the Bill through Parliament in 1827, however, was smoothed by certain concessions on the part of the magistrates providing that the "Meadows" should be an open space in all time coming, and, better still, that nothing should be built in front of Princes Street, and nothing done to take away from the character of the valley between the towns as such. Of the Princes Street concession Lord Cockburn says that the Lord Provost "parted with it as the last drop of his heart's blood; it was, as it were, his last expiring pang," a curious attitude to take with regard to the best interests of the city.

Sanitary Improvements.

It was in 1867 that the era of sanitary reform set in for Edinburgh, with the series of far reaching changes ushered in by the "Lord Provost Chambers's scheme," which aimed at remedying the congested state of the Old Town. Indeed, the state of the Old Town slums was such as gave strangers to Edinburgh cause to say that the city (now the cleanest in the world, according to Treasurer Sir Robert Cranston) was the dirtiest of their acquaintance. The people of the Old Town lived in reeking, filth-strewn closes, perhaps 5 feet wide at bottom and tapering atop till they sometimes touched. The houses in the closes were of a solid and picturesque type, ranging from 200 to 400 years old, and seemingly built for eternity. Internally, however, they were flimsy to a degree, the former large rooms having been subdivided, on the flight of the old tenants to better quarters, by verminous wooden partitions into one and two-roomed houses, demoralising places whose inmates had no idea of cleanliness or comfort. Sanitation was equally unknown, and in these conditions the death-rate could not but reach its maximum in the Old Town, which, as a hotbed of disease, was a standing danger to the whole city.

This state of matters is usually traced to the system of skyscrapers and over-building which came in with the Flodden Wall, and though groups of closes were weeded out as time went on, for one purpose or another, it was left to the improvers of 1867 to tackle the slum problem by assailing the closes on grounds of public health. The scheme for the sanitary improvement of the Old Town fell into two parts—first, the widening of old streets and the running of new streets through the most densely-built quarters; and second, and more novel, the razing of whole areas with a view to creating lung spaces. To meet the case of the thousands who were dislodged in the course of these undertakings, the Improvement Trust went to work gradually, block by block, putting up fresh dwellings as the old were removed. The Trust houses have hardly been a success, however, as their quality was too good for the class of people into whose hands they fell, people to whom the proper use of the increased sanitary and other conveniences was unknown. Care was taken to keep down the height of these tenements, and as far as possible to preserve the traditional aspect of Edinburgh by following the style of the fine early seventeenth-century work extant throughout the ancient wynds and closes.

Though the "Chambers Scheme" bore fruit in a marked lowering of the death-rate, we have to come down to 1893 to find the same policy at work upon anything like the same scale, a halt having been called in the meantime both on grounds of economy and to allow of the population adjusting itself in other dwellings. A fresh start was then made in virtue of the powers given to corporations by that much criticised measure, the Housing of the Working Classes Act. Since the time of Lord Provost Chambers the housing problem had become, if anything, more acute, from the change that had passed over the character of the dwellings in many areas, former two and three-roomed houses being now split up with a family in each room, so that as many as fifty families might be lodged in a single stair. And the most overcrowded areas were found to be the most criminal. Various attempts to put the slums in order, apart from reconstruction, had proved unsatisfactory. Accordingly three schemes in turn have been promoted under the Act in the years 1893, 1898, and 1900, of which the last is still in progress. The sanitary inspector's annual report, lately to hand, shows that a considerable number of properties in the city call for treatment, and that the prevention of overcrowding continues to engage attention, though from year to year fewer of such cases are found to exist, last year's total being only 244.

It is a speaking proof of the fact that an enormous lowering of the death-rate is associated with the pulling-down and opening up of slum areas, that the more recent efforts towards the better housing of the poor and working classes in Edinburgh have borne fruit in a fall of the mortality by between 8 and 9 per thousand in the last ten years. The burden laid upon the ratepayer by these undertakings cannot be said to be heavy, averaging, as it does, about one-eighth of a penny per pound per annum over the last six years, while the income from the Corporation houses compares favourably with the results obtained in London and Glasgow. Nor has the fear that removing the slum houses would lead to a rise in the rental of similar property throughout the city been realised; indeed, the example of the Corporation has been a wakener to private proprietors in the direction of doing something for the comfort of their tenants.

COVENANTS BY TENANTS TO PAY RATES, TAXES AND OTHER CHARGES

By W. S. Holdsworth, M.A., B.C.L., Barrister-at-Law.

"There is one thing," said Romer, L.J., in a recent case, "of which I am satisfied, namely, that the authorities on this subject are in a very unsatisfactory condition." * All persons who have practical or professional knowledge of the varied constructions which the courts have from time to time put upon these covenants will endorse this remark of the learned Lord Justice. But the knowledge that the law is judicially declared to be defective is but cold comfort to a tenant who has been obliged, perhaps, to incur great expense in permanently improving another's property, and has in addition been mulcted in the costs of ascertaining that such is the law. We propose to consider what are the leading principles of the law upon this subject, and to offer some suggestions for its improvement. The class of persons who enter into these covenants are usually wholly ignorant of the meaning which the law puts upon them. The cost of obtaining professional advice is often a consideration to them. Under these circumstances it is clear that the Legislature should make some provision for clearly bringing to their notice what obligations they may incur when they sign a lease containing widely drawn and wordy covenants binding them to pay all manner of rates, taxes and other charges. Under the paternal notions as to the limits of State interference prevailing at the present day these obligations may be very burdensome. It is only reasonable and logical that the State should see to it that intending tenants have clear notice before it is too late that legal verbiage is not always harmless.

We may divide the rates, taxes and other charges payable by the landlord or the tenant into three classes:—(1) There are the payments which the landlord is obliged either to make, or to allow the tenant who has made them, to deduct from his rent—any agreement to the contrary notwithstanding. Instances are the property tax, tithe rent charge, and extraordinary tithe rent charge. (2) There are the payments which the tenant is obliged to make, even in the absence of any agreement to that effect. Instances are the poor rates (unless the property is let for a period not exceeding three months), county, borough or highway rates, assessed taxes, general district rates, water and gas rates. The landlord may by express agreement undertake to pay all or any of these rates and taxes. Such covenants by a landlord are not frequent, and therefore the cases in which the interpretation of such covenants have come before the courts are comparatively rare. (3) There are certain rates, taxes and charges the liability for which, in the absence of express covenant, falls upon the landlord. It is these express covenants, which thus shift the liability from the landlord to the tenant, which have given rise to the many disputed cases which make this branch of the law so uncertain. Unlike the covenants which shift the tenant's burden to the landlord, they are very usual. As Mathew, L.J., observed in the case already cited, "Where landlords are in a position, as is not infrequently the case, to dictate terms to a tenant, they would naturally be anxious to get rid of the liability to such charges as these, and the more so that the amount of them would be uncertain." It is express covenants of this class which are the subject of this article.

At the outset we must distinguish between two distinct classes of charges which may fall within the scope of such a covenant. They may be either recurrent in their nature and fixed in amount, *e.g.* the land tax; or, they may be charges which are uncertain in amount and compel expense to be incurred upon what is really a permanent improvement of the property. Such charges are imposed by a great variety of statutes which deal with particular localities. As types of such statutes we may take the Metropolis Management Acts † and the London Public Health Act ‡ We must state shortly the manner in which these statutes operate in order to understand how these cases of disputed liability arise, and the grounds upon which some of them have been decided. Under the first named of these Acts the local authority is empowered to require certain drainage or paving work to be done, and if it is not done, to do the work itself and to recover the cost from the landlord. Under the second of these Acts, when premises are, from certain causes defined in the Act, in such a state as to be dangerous or injurious to health, they constitute a nuisance within the meaning of the Act. In such a case notice must be given to the person by whose act, default or sufferance the nuisance arises or continues, or if such person cannot be found, to the owner or occupier of the premises, requiring him to abate the nuisance. If the notice is not complied with such person is liable to a fine, and the sanitary authority may get an order from a Petty Sessional Court authorising it to do the necessary work. The fine and the expenses so incurred may be recovered in a summary manner, in the High Court or the County Court. Under the first-named Acts the duty of doing the work is, in the event of the landlord failing to do it, cast on the local authority. The landlord is liable for the cost of the work so done. Under the latter Act the duty of doing the work is cast on the landlord. The landlord is liable for the consequences of his neglect in not fulfilling his legal obligations.

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* Foulger *v.* Arding, L.R. 1902, 1 K.B., at p. 709.

† 18 & 19 Vict. c. 120; 25 & 26 Vict. c. 102.

‡ 54 & 55 Vict. c. 76.

It is settled that if the tenant simply covenants to pay all rates, taxes and assessments payable in respect of the premises during the term, he is liable to pay the first class of charges only—*i.e.* those which are recurrent in their nature and fixed in amount.[*] As Jessel, M.R., put it in the case of Allum *v.* Dickinson, which was a case under the Metropolis Management Acts, "The charges mentioned in the covenant are annual charges; but this is a payment which is to be made once for all, and is not, therefore, similar to the other payments, which are to be thrown on the tenant."

Difficulties begin when larger words are used in the covenant. This enlargement of the covenant may take place in two ways:—The charges for which the tenant makes himself liable may be expressed in large and vague words, such as "duties," "outgoings," "impositions"; or the covenant may make the tenant liable not only for all charges imposed in respect of the premises, but also for all charges "imposed upon the landlord or tenant in respect thereof," or "upon any person in respect thereof." We often get both these methods of enlarging the obligations of the tenant used simultaneously.[†]

In coming to a conclusion whether such covenants will place upon the tenant the liability to pay the expense of what we have called the second class of charges, the courts seem to have acted upon three distinct lines of argument. One of these lines of argument is based upon the wording of the statutes imposing the charge; the other two are based upon the construction of the words of the covenant. We can also detect in many of the cases a mode of reasoning which is based not upon the wording of the covenant, but upon a consideration of the circumstances of the case and of the probable intention of the parties.

The two cases which may be said to be the modern leading decisions upon the subject, are those of Tidswell *v.* Whitworth [‡] and Thompson *v.* Lapworth.[§] In the first case the lessee covenanted to pay all taxes, rates, assessments and impositions (except property tax) which during the term should become payable in respect of the demised premises. It was held that the tenant was not liable to repay to the landlord the amount assessed upon him in respect of certain drainage and paving work under the Manchester Improvement Act. In the second case the covenant was to pay and discharge all taxes, rates, *duties* and assessments assessed or imposed upon the tenant or the landlord of the premises in respect thereof. It was held by the same judges who decided the first case that the tenant was liable to repay to the landlord the amount which the landlord had been required to pay under the Metropolis Management Acts. The main distinction drawn between the two cases was that in the first case the liability of the landlord under the statute was to do the work, while in the second the liability was to pay for work done by the local authority. That is, in the first case the landlord was obliged to pay for the consequences of his own negligence, and not to pay any charge within the covenant; while in the second case the direct liability was to pay a sum of money which did clearly fall within the words of the covenant.

The later case of Rawlings *v.* Briggs[*] followed Tidswell *v.* Whitworth, while the case of Hartley *v.* Hudson,[†] decided a short time after, followed Thompson *v.* Lapworth. But in Hartley *v.* Hudson stress was laid not so much upon the wording of the statute imposing the liability, as upon the presence of words imposing the liability, not merely upon the premises, but also upon any person or persons in respect thereof. The trend of the more recent cases has been to lay stress not so much upon the enumeration of the persons upon whom the charges are imposed, as upon the generality of the words used in the covenant. Such words as "duties" or "impositions" have been held to be by themselves sufficient to shift the liability to the tenant. A recent action of this sort was the case of Farlow *v.* Stevenson.[‡] Lindley, M.R., said in the course of his judgment that "in every case in which the word *duties* has been introduced into such a covenant, the construction has been against the tenant and in favour of the landlord." But looking at the *ratio decidendi* of the earlier cases, it is by no means clear, as Collins, M.R., said in Foulger *v.* Arding,[§] that at that earlier period cases like Farlow *v.* Stephenson would not have been decided the other way. It would therefore appear that the Court has acted on many different modes of interpretation in dealing with these cases.

Besides looking at the strict meaning of the words of the statute or covenant, the courts have, in many of these cases, looked at the circumstances of the parties, and have considered whether under these circumstances it would be reasonable to impose the liability in question upon the tenant [‖] As Collins, M.R., put it in the case of Foulger *v.* Arding, "underlying the whole matter is the consideration that we are dealing with a contract of demise between landlord and tenant, and the covenant must be assumed to relate only to matters which may reasonably be supposed to have been contemplated by the parties as being within the purview of such a contract." Upon this principle it has been recently held that a tenant who holds over after the determination of his lease, and who is therefore in the position of a tenant from year to year, cannot be made liable for work required to be done under the Public Health Act,[¶] because such a covenant is not applicable to the position of a tenant from year to year. But this principle is too large and vague to be a practical guide. Its application seems to depend upon the taste and fancy of the judge; and, as recent cases have shown, it may simply lead to further litigation. Farwell, J., decided in the case of Valpy *v.* St. Leonard's Wharf Co.[**] that where a cottage was leased by the year for 20*l.* and there was a covenant by the tenant to pay outgoings, this covenant would not impose upon the tenant the liability to pay for the paving of a yard in obedience to a requisition of the local authority. But in the case of Stockdale *v.* Ascherberg,[††] in the King's Bench Division and the Court of Appeal, a tenant under a three years' agreement at a rent of 54*l.* was held to be bound by a similar covenant to pay the sum of 83*l.* 10*s.* in reconstructing the drainage of the house. Wright, J., practically declined to take the circumstances into consideration, saying that he had some difficulty in under-

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[*] Wilkinson *v.* Collyer, L.R. 13 Q.B.D. 1; cf. Allum *v.* Dickinson, L.R. 9 Q.B.D. 632, for a covenant having the same effect, but in larger terms.

[†] In Foulger *v.* Arding, L.R. 1902, 1 K.B. 700, the covenant was, "To pay and discharge all taxes, rates, including sewers, main drainage assessments, and impositions whatsoever, which now are, or which at any time or times hereafter during the continuance of the said term hereby granted, be taxed, rated, assessed, charged or imposed upon or in respect of the said premises, or any part thereof, on the landlord, tenant or occupier of the same premises by authority of Parliament or otherwise howsoever (landlord's property tax and tithe only excepted)."

[‡] L.R. 2 C.P. 326.

[§] L.R. 3 C.P. 149.

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[*] L.R. 3 C.P.D. 368.

[†] L.R. 4 C.P.D. 367.

[‡] L.R. 1900, 1 Ch. 128, 140.

[§] L.R. 1902, 1 K.B. at p. 708.

[‖] Allum *v.* Dickinson, L.R. 9 Q.B.D. at p. 675.

[¶] Harris *v.* Hickman, L.R. 1904, 1 K.B. 13.

[**] 1 L.G.R. 305.

[††] L.R. 1903, 1 K.B. 873; 1904, 1 K.B. 447.

standing this method of reasoning. The Court of Appeal admitted that the case was a hard one, but they thought that, having regard to the condition of the premises at the time of the demise, and the requirements of local authorities in such matters, they could not say that the contingency of such an obligation arising was wholly outside the contemplation of the parties. But we may well ask, How many tenants would knowingly consent to a covenant under which they might be obliged to spend a year and a half's rent in improving another's property? In the case of Brayshaw *v.* Ninnis,* decided in 1903, the case of Stockdale *v.* Ascherberg was followed.

Thus it is clear that the judges infinitely prefer to decide these cases upon the narrower and more familiar ground of a strict construction, either of the Act of Parliament imposing the liability, or of the words of the covenant—assigning as the reasons for their decision now one ground and now another.

It is clear, therefore, that the law on this subject is in a very unsatisfactory condition. Tenants should be protected against the risk of incurring liabilities which may be very serious to them. They should have the chance of knowing what are the actual and prospective liabilities they incur when they sign a lease. Now, it is quite possible to ascertain what are the actual and prospective liabilities which affect or may affect property in any given locality under existing Acts of Parliament. The landlord or the tenant would be fully protected if a covenant which purported in any way to shift on to the landlord or the tenant obligations which, but for the covenant, would be borne by the tenant or the landlord respectively, enumerated distinctly the obligations so transferred. It would be easy to effect this result by an Act of Parliament which required this distinct enumeration. If it is objected that this would make it impossible to draw leases without professional advice, the objection could be met by requiring the officials who are responsible for the collection of the rates and taxes in each district to supply, at a small cost, a list of the charges actual or prospective which may be imposed upon property in their district, under existing Acts of Parliament. It would, of course, then be impossible to shift any liability which might be imposed upon the landlord or the tenant by Acts of Parliament passed after the lease was signed. But this is hardly an objection. The burden would then lie where Parliament had placed it, and the landlord or the tenant would not by his contract be exposed to liabilities which could not be foreseen when the lease was signed.

The law, as it stands, is a mere source of litigation. In view of the large powers which local authorities possess to require expensive improvements or alterations, it would be to the interest of landlord and tenant alike that it should be made perfectly clear whether, under any given lease, the cost of such improvements or alterations is to be borne by the one party or the other.

ELECTIONS IN POMPEII.

SOME time before the ashes and lava of Vesuvius in 79 A.D. covered up Herculaneum and Pompeii, a municipal election was held in the latter city. Mr. Joseph Offord read a paper before the Society for the Encouragement of the Fine Arts last week concerning this election, about which nothing would have been known but for the terrible eruption, which from 79 to 1755 buried the municipium and its electors alike in a lava tomb. Mr. Offord showed that many of the inscriptions uncovered on the walls of the city relate to elections and the claims of candidates, much in the same way as do the placards posted in our streets to-day set forth the qualifications of candidates for the London County Council election. Some were rudely inscribed, others set forth with artistic embellishment, and one, at least, contained a topical verse written by some minor poet, and painted in red. Like our candidates, those in Pompeii were run by their supporters, who represented various trades and interests. The woodcutters, fishers, perfumers, dyers, barbers and the like had their men pledged to promote or protect their rights and privileges. There were faddists, too, in Pompeii, who were looked after by such societies as the Ball-players, Long Sleepers, Deep Drinkers, and Little Thieves, to adopt a free translation of some of their titles. At Pompeii's ultimate civic contest the Long Sleepers and Deep Drinkers appear most appropriately to have run a candidate in common—the main plank in their platform being the suppression of street noises. Even Pompeii had its religious difficulty. As every visitor to those wondrous unburied ruins knows, it was the home of a cosmopolitan and, for its age, cultured and tolerant people, and to this day stand altars erected to Egyptian gods side by side with those of the established worship of Venus. Naturally there arose some differences between them. It is suggested that further excavations may prove that at the 79 election there were Isis passive resisters. Thus near came Imperial Rome to representative government.

THE ABERDEEN SOCIETY OF ARCHITECTS.

THE annual general meeting of this Society was held on the 1st inst. in the Grand Hotel, Aberdeen, Mr. Arthur Clyne, the president of the Society, in the chair, when there was a large attendance of members. The annual report by the Council, dealing with the affairs of the Society during the past year. was submitted and unanimously adopted. The President briefly addressed the meeting, alluding in an interesting manner to various matters affecting the interests and welfare of the Society. The accounts for the year were then submitted and passed, the balance to the credit of the Society standing at 65*l.* 17*s.* 11*d.*, an increase of about 10*l.* as compared with the previous year. The election of office-bearers and Council for the ensuing year was then proceeded with The following is the result of the election, viz.:—President, Mr. Arthur Clyne; vice-president, Mr. R. G. Wilson; hon. treasurer, Mr. Rust; joint hon. secretaries, Mr. Rust and Mr. A. H. L. Mackinnon; members of Council, Messrs. William Kelly, H. Maclennan, G. B. Mitchell, J. B. Nicol and George Watt.

KOREAN HOUSES.

ON Monday the Rev. C. T. Collyer read a paper on Korea at the meeting of the Royal Geographical Society. He said the winter cold is very intense, and during cold weather the Korean will not leave his house unless obliged to. When building it he always looks out a sheltered spot, and plans the house so as to get in it the maximum amount of heat. Never, said Mr. Collyer, is a house to be found on the north side of a hill or mountain, and there is no location so desirable for house-building as under the lee of a horseshoe-shaped hill facing the south. In any village the houses that are highest up on the hillside are always the poorest. They are all one-storey buildings, and that storey is but a low one. Their rooms are supposed to be perfect cubes of 8 feet, though it is generally found, to the distress of tall people, that the tie-beams of the roof come within 6 feet of the floor. The roof which, with the exception of those in the cities, is generally thatched with rice straw, is entirely supported by pillars, which rest on foundation-stones laid on, not set in, the ground. The spaces between these pillars are filled up with what we must call laths and plaster partition, according to the material that is found locally. The floor is of stone slabs laid over flues in which brushwood grass, or other fuel, is burnt. The stones thus becoming heated radiate their warmth through the entire room. So as to lose none of this warmth the Korean uses no furniture. The floor with its oil-paper cover is to him chair, table and bed The Korean, as an individual, differed largely from the Chinese or Japanese. He desired, most of all, the peaceful life of a student. When placed in the schoolroom with Chinese and Japanese students the Korean had always shown himself to be, from an intellectual point of view, superior. Casual visitors had branded him as lazy and indolent, but the truth lay in the fact that he lacked incentive through official oppression. The principal exports were rice and beans to Japan, ginseng to China, and gold, which was now almost exclusively purchased by Japan. Gold was found in paying quantities in many parts of the country; the oldest established mine where Western methods were in use was in Ping-yang, where the American mine had proved to be a perfect Bonanza. The Koreans might be fairly compared to a sleeping man. For three centuries they had been asleep, unable to shake off the lethargy produced by the shock of the Japanese invasions, when all her skilled workmen were deported; the art pottery of Japan was the outcome of the work of the descendants of the Koreans. At the present time the Korean was surprised to hear the snort of the locomotive pulling a train across the valleys and through the hills, and was astonished to see the electric tram go past him in the streets of his capital. Mr. Collyer had had some experience of taking Koreans from the country into Seoul to see the modern improvements; they had invariably been speechless until returning to their native hamlets, where they were free to describe what they had seen. Throughout the country telegraph wires had been stretched for the past ten years, and now this was superseded by the telephone The introduction of the railway, electric trams, electric lighting, telegraph and telephone was appreciated, and was working great changes in the thought and habits of the people.

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* L.R. 1903, 2 Ch. 367.

NOTES AND COMMENTS.

It may be interesting to many contractors to learn that claims for extraordinary traffics must be brought within twelve months of the time when the damage was done. That was laid down by Mr. Justice Walton in a case brought by the Norfolk County Council against a firm of timber merchants. It was sought to recover 677*l.* for damage to roads caused by using a traction-engine to convey large quantities of timber from the Beeston Estate to North Walsham and other places. As the writ was not issued until August 4, 1902, his lordship held that any damage caused prior to August 4, 1901, could not be recovered. After that date the damage could only be assessed at 75*l.* It so happened that one of the defendants had left the firm in 1900, and the County Council's claims were therefore reduced to a minimum. It usually happens that in such cases the local authority is successful, and the Norfolk case is exceptional. But the facts which brought about the issue are likely to arise on many other occasions, and county councils must for the future bring their actions within a time when the facts can be remembered.

Archæologists regard with philosophical equanimity the imposition of ancient taxes which recall an obsolete condition of affairs. They are survivals, and therefore as substantial evidence of antiquity as any documents. The Trophy Tax, which is levied from time to time in the City, only dates from the reign of Charles II. But it suggests the difficulties existing at that time to obtain armed defenders. Commissions of lieutenancy seem now a vague phrase. But in 1638 they were the sole means which could be employed "to call together persons, and them to arm and form into regiments, and lead and conduct and imploy them as His Majesty shall direct, as well within the several counties and places where they shall be commissioned, as into other counties, for suppressing all Insurrections, Rebellions and Invasions." But if the tax is imposed we ought to have the kind of soldier described in the Act, and they would form a troop which could afford general enjoyment on a Saturday afternoon, for the official regulations were as follows:—"At every muster and exercise every Musketeer shall bring half a pound of Powder, every Horse-man a quarter of a pound, at the charge of the persons finding the said Soldiers. The Arms and Furniture of an horse offensive and defensive shall be, viz. Defensive arms: a Back, Breast-plate and Pot, the Breast-plate and Pot Pistol-proof. Offensive arms: a Sword and Case of Pistols, the barrels not under 14 inches in length. Furniture of a horse: a great Saddle-pad, with burrs and straps to affix the holsters unto, a bit and bridle with a pectoral and crupper. Foot arms: a Musket, the barrel not under 3 foot in length, and the bore for twelve bullets in the pound, a collar of bandeliers and sword. Pike arms: a Pike of Ash, not under 16 foot long, with a back, breast, head-piece and sword." Whether they were representatives of the old warriors no one can say. The Lord Mayor, who on Monday heard a summons for nonpayment of the rate, stated that in the Army List there was mention of a City of London Militia, and it was presumed such a body did exist. But the subject is to be brought before a higher Court, and then history will have an opportunity to defend its rights.

The question of responsibility for the accuracy of bills of quantities is a grave one. In theory it may be readily assumed; but when an action at law arises over alleged inaccuracies lawyers are not disposed to meet any demands that arise without a contest. There are many subsidiary legal issues which can appear, and which the law books have recorded. If inaccuracy exists on one side, there may be negligence on the other, and it is difficult to foretell on which side a judge may lay most emphasis. Considering how serious are the risks attached to any declaration of responsibility, it shows remarkable courage on the part of the promoters of the lately formed Quantity Surveyors' Association of the United Kingdom to insist that there shall be no doubt on the subject. Rule 13 is as follows:—"Any member of the Association who shall supply bills of quantities holds himself responsible for their accuracy, and to pay for all losses caused by his errors therein (when called upon so to do by the aggrieved party). On the refusal of any member to recoup any loss, the Council shall, on the application of the aggrieved party, investigate the matter; and if the member refuses to pay any sum they, the Council, may find to be due through his negligence, he shall be at once expelled from the Association, and shall not be eligible for re-election until the amount is paid." There exists too much vagueness at present in many of the arrangements relating to building, and in consequence building-owners prefer in many cases to make a bargain for payment in a lump sum with a contractor, and to accept the building as they would goods from a shopkeeper. The example of the quantity surveyors, if faithfully carried out, may not be without its effect on others co-operating in building, and if the liability to pay in hard cash for remedying defects were taken as a matter of course it is beyond doubt people would be less satisfied with old buildings than they appear to be at present. Every expression of dissatisfaction by a client after the erection of a new building is taken as a warning by other men against the risks they will have to assume by becoming building-owners.

A great many people, it is said, pass by the cathedral of Carlisle without recognising its importance. If they would enter the building and consider the choir, and especially the east window, they could not fail to be convinced that the building was of greater value than it appears from the outside. The window has been often described as the most beautiful in England. There are nine lights, and the upper part is filled with admirable tracery. It would adorn the greatest of the English cathedrals, but at Carlisle it redeems much that is defective. The light it should transmit is diminished owing to the proximity of ordinary buildings. They are about to be removed, and the Rev. Sidney Swann has been enabled to purchase some of them and to make arrangements that those to be erected will be so low as not to interfere with the window which is the glory of Carlisle. Many lovers of stained glass have desired this consummation, but hitherto it seemed to be an impossibility.

ILLUSTRATIONS.

SEYMOUR HOUSE, CORNER OF PALL MALL AND WATERLOO PLACE, S.W.

NEW HEAD-QUARTERS FOR THE CHURCH ARMY, EDGWARE ROAD, W.

THE TREASURER'S HOUSE, YORK.—ENTRANCE HALL—ENTRANCE FRONT—GATE.

A RESIDENCE befitting a student of antiquity is rarely seen. If a suitable building can be discovered there is a risk of making it appear as a disorganised museum. Sir Walter Scott, who was one of the fraternity, has suggested in his description of Monkbarns some of the drawbacks inevitable in such cases. The visitor was hardly able to perceive the owner through the thick atmosphere in the room, but was assured that the dust was very ancient, peaceful and quiet. The books were two or three files deep. There were countless odds and ends, and there was a profusion of papers, parchments and nondescript trinkets and gewgaws, which seemed to have little to recommend them besides rust and the antiquity it indicates. In Mr. Green's residence at York it will be observed that there is neither the profusion nor confusion associated with a study of archæology. Both house and collection are enough to excite the covetousness of an American, and compel him to wonder whether it would not be possible to forcibly carry off the movable and immovable property, and set both up in some new city of the States where they would afford unlimited delight to all visitors. The Treasurer's House is not one of those which are thrown open to the public on all occasions, and we are indebted to the owner for enabling us to illustrate it for the first time.

CRANFORD HOUSE, LEAMINGTON.—ENTRANCE FRONT—GARDEN FRONT.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last, Mr. H. T. Hare, president, in the chair.

The following were elected as members :—Messrs. J. F. Blakiston, E. H. Gandy and J. W. Fair.

House List—Session 1904-5.

The names proposed were :—President, Mr. E. Guy Dawber. Vice-presidents, Mr. A. T. Bolton and Mr. J S. Gibson. Committee, Messrs R. S. Balfour, G. B. Carvill, W Cave, F. C. Eden, H. T. Hare, A Keen, F. Lishman, A Mitchell, J. Murray, D. B. Niven, W A. Pite, J. MacLaren Ross, E. H. Seth-Smith, W J. Tapper, A. Brumwell Thomas and A. Needham Wilson; hon. treasurer, Mr. F. Hooper; hon secretaries, Mr. Louis Ambler and Mr. H. Tanner, jun.; hon librarian, Mr. W. A. S. Pettit; hon. assistant librarians, Mr. E. Gunn and Mr. C M. Crickmer.

Mr. J. W. Simpson read a paper entitled

Schools.

He said :—"Education is on everybody's lips. Our great schools and colleges are in the middle of a revolution which, like most revolutions, means discontent with what we have and no clear idea of what we would have." Thus James Anthony Froude spoke shortly before the passing of Mr. W. E. Forster's measure of elementary education in 1870. Thirty-five years have passed since he addressed those words to the students at St. Andrews; a system of elementary education has come into existence, the Act under which it is administered has been amended, reamended and extended from time to time as necessity and experience have suggested; yet what Froude said in 1869 may be repeated with equal truth in 1904. Well, better a very South America of revolution in education than stagnation; to me it argues no small strength of national character that we should have thrown down the structure reared with so many years of patient care, and be already at work with an equal enthusiasm upon a new fabric of, as we hope, better design. For we who are brought into contact with the new authorities created by the Education Act of 1902 know well that, setting aside the few fanatics who are engaged in trying to cut one another's doctrinal throats, enthusiasm there is.

The movement, you will observe, does not so much affect matters of elementary education whereof the principal lines are now pretty well established as of the so-called secondary and higher instruction. We are without doubt about to witness, by reason of the Act of 1902, just such a development and organisation of advanced teaching as may be seen to have taken place in primary teaching when the condition of the latter in this country now is compared with what existed in 1870

It is instructive to look back for a moment at the state of English schools previous to that date. Charles Lamb, whose death at fifty-nine was, it may be noted, about equi-distant from 1870 in point of time with the present date, writes in his "Recollections of Christ's Hospital":—"As a novice I was soon after taken to see the dungeons. These were little square Bedlam cells, where a boy could just lie at his length upon straw and a blanket—a mattress, I think, was afterwards substituted—with a peep of light let in askance from a prison orifice at the top, barely enough to read by. Here the poor boy was locked in by himself all day, without sight of any but the porter who brought him his bread and water—who might not speak to him—or of the beadle, who came twice a week to call him out to receive his periodical chastisement."

Well, we are not like to be called on to provide dungeons in the plan of any modern school buildings we may have to prepare, and in other respects the difference between educational requirements then and now is hardly less striking.

Fiction, the pictured view, so to speak, of geometrically-defined history, has preserved for us the likeness of Dotheboys Hall and its principal, Mr. Wackford Squeers. "We go upon the practical mode of teaching . the regular education system," remarked that amazing foster-parent "C-l-e-a-n, clean, verb active, to make bright, to scour. W-i-n, win, d-e-r, der, winder, a casement When the boy knows this out of book, he goes and does it." I do not desire to dwell upon the abuses of those times; I mention them merely as illustrative of the change in our educational morals, which renders what was possible then a matter of scarcely credible comment now. Perhaps, however, while deprecating the morality of Squeers we may recognise in his methods the germ of the technical instruction of to-day

In your sketching expeditions through country districts you have no doubt come across, and perhaps passed as unworthy of attention, little single-storey brick buildings of hideous design garnished with cement travesties of Gothic gables and windows Over the doorway is the inscription, "National School" or "British School" It is a safe wager that if you stop and question the first six architects cycling by on their quest of tit-bits to measure no one of them will be able to interpret to you the signification of those legends. Yet it is from these buildings that the modern type of elementary school has been developed. They were erected by two societies, the "National Society," founded by Dr. Andrew Bell, and the "British and Foreign Society," by Joseph Lancaster. The first Lancasterian school was opened in 1798, the National schools dating from somewhat earlier They were at first mainly supported by private subscriptions, and the term "charity school" grew to be a more or less invidious epithet of distinction from the richer "grammar school."

William Cobbett, riding through Sussex in 1823, says :—"I got to Goudhurst to breakfast, and as I heard that the Dean of Rochester was to preach a sermon in behalf of the National schools, I stopped to hear him." Being disappointed in this, he remarks :—"This preaching for money to support the schools is a most curious affair altogether;" as, indeed, from his account of it, it was. The money seems to have been distributed by the Society for the Promotion of Christian Knowledge, upon which Society, its treasurer, the parson, and the Methodist schoolmaster, who "was reading to the children out of a tract-book and shaking the brimstone bag at them most furiously," he bestows unmeasured abuse as he rides away. Later on, in 1834, grants of public money were made in their support, and shortly after an education committee was formed in the Privy Council to administer these grants.

The Bell and Lancaster elementary schools were the first to be planned on a scientific basis of relation between the system of teaching and the building The method was, shortly, as follows :—One master had the entire control of the school. The number of scholars was unlimited. Lancaster is reported to have said that he would not hesitate to place as many as 1,000 under a single master in one room, though it is not reported that he ever actually did so. The building consisted merely of one room, of oblong form and of suitable size for the number it had to hold. The master's desk was upon a raised platform at one end and the scholars sat facing him at long desks placed transversely to the long axis. On each side of the desks and the whole length of the room was an alley or gangway 5 feet or 6 feet wide The floor was inclined from the master's desk to the further end, where the highest class was placed. The whole school was divided into small classes according to attainments, the feature of the system being that every class was taught by other scholars, who had themselves reached a slightly greater degree of proficiency than those they taught. These "monitors," as they were called, occupied the side gangways already referred to, and formed their little classes into semicircles for reading and so on. No special arrangements were insisted on as to lighting, the windows being generally at both ends and on one side The system of monitors became discredited as matters advanced, and their place was taken, about 1826, by "pupil teachers," under the development of the methods of Mr David Stow, of Glasgow. These "pupil teachers," I may perhaps mention, are drawn from the ranks of the scholars, as were the monitors; but, although themselves still under training, are professional teachers who have reached a definite age limit and passed a certain qualifying examination.

The school-house plan was modified under the "Stow" system, but the principle of immediate supervision by the master remained The schoolroom was still the simple oblong plan, though as much as 28 feet or 30 feet in width. A very large stepped gallery occupied the end furthest from the door, capable of seating quite two-thirds of the pupils. This was used for collective lessons; and, the buildings being designed in most cases for use also as Sunday schools, was considered of great importance, not only for efficient supervision, but as being well suited to the purposes of religious instruction A row of long desks was placed against each of the side walls for writing lessons, and one or two separate classrooms were provided at the end of the room opposite the gallery, each with its own gallery.

The "pupil teacher" system proved successful, and the plan, with minor modifications, remained pretty much on these lines until the Committee of Council on Education, mentioned above, began to organise matters about 1840 and onwards. In the early schools, you will observe, simultaneous teaching was the aim of the plan. Now, as pupil teachers became fairly efficient, they were found capable of instructing separate classes with advantage; though, being young, they required supervision at their work and the help of the master's authority. Therefore, note how the problem had varied its conditions. What was now wanted was a series of classes, all separately taught, yet all under one controlling eye The Gallery and Lancaster plans, where the seats were placed at right angles to the long axis of the room, were no longer suitable The reason for their compact grouping had disappeared, and they did not permit classes to be effectively isolated one from another. Accordingly the seats, instead of being placed at right angles to the long axis, were now put parallel thereto, and some three rows deep of desks only used, so that a young teacher's voice might easily reach the scholars. As it was clearly inadvisable to have classes seated face to face, they were placed side by side. The rooms were reduced in width, leaving room only for the class to be called out in front of the desks and grouped around the teacher. Here, then, at last we have our old friend the long schoolroom, 18 feet or so in width, having seats on one side only and cross-lighted.

The classes were generally separated by a curtain, and the room was very often an L or T in shape, so that the master could readily overlook all that was going on from the intersection of the arms. Although there was generally a classroom to each department, where a special class could be taken, there is no hint as yet of the classroom plan as now understood. This mention of "departments" reminds one that boys and girls were by this time generally separated instead of mixed as in the older and smaller schools, where considerations of expense did not allow of both a master and mistress being engaged. This was, however, by no means universal. Such, then, was the type of elementary school-building which prevailed up to the time of the momentous Act of 1870 which established School Boards. It may be noted before leaving this part of my subject that the schools up to this date open to the working-classes and the masses of the labouring population were what were afterwards called "Voluntary" schools. That is, they were maintained by private effort, supplemented by Parliamentary grants. Of these, the "National" or Church schools counted in 1869 upwards of 808,000 children, as against 217,000 Dissenting and 68,000 Roman Catholic scholars.

School Boards being now established, and the directions of Parliament being peremptory as to the provision of sufficient school accommodation, the building of elementary schools proceeded apace. Public interest in the arrangement and designing of such buildings received a great stimulus. The adoption of the dual desk, with its attendant facilities for placing the desks in four or five rows deep instead of only three, brought about greater compactness in the disposition of classes, and required a wider plan of schoolroom.

Attention was directed to the various continental schools, and their relative merits were compared with the type developed from the "pupil teacher" system of this country. It is impossible for me to dwell at any length on foreign educational methods; it will suffice for my purpose to state generally that those of Prussia were found to be at once fairly representative of those of Europe, and in a very high condition of efficiency. The conditions of entrance and study in these Prussian schools render necessary much greater isolation of the class than with us. A classroom, in fact, as has been well observed, encloses within its four walls a little school in itself This implies, naturally, a highly trained teacher in charge of the class, who is equal to maintaining discipline without the constant moral support of the head-master. It is typical of our national methods that, while approving and accepting the type of plan thus evolved, we rejected the method of which it was the logical result. It seems to have been thought that if every class were taught in its own room better and more rapid progress would be made by the scholars. At the same time it was desired to retain the greater economy of teaching power given by grouped classes. It is also typical of our national methods that, after a trial school had been built which was considered more or less a failure at the time, we gradually evolved a combined "classroom" and "pupil teacher" system of our own, which has proved very satisfactory. This trial school was built in 1872 by the London School Board in Jonson Street, Stepney, and marks a most important step in the development of our elementary school planning. It was erected from the designs of Mr. T. Roger Smith, and you are no doubt familiar with its lines from published descriptions and illustrations.

The Prussian classroom plan, already alluded to, contained no hall for collective teaching and assembly, though an examination hall was frequently attached to a school, as often as not on the top floor, being used perhaps three or four times in a year for examinations or public functions Mr. Roger Smith's plan, however, retained the assembly hall or large schoolroom of English tradition, and added classrooms opening out from it on three sides It was a remarkable plan and has greatly influenced subsequent school development. And I venture to draw your attention to the fact that it was the outcome of competitive design.

Since then the classroom system has steadily gained in favour, and the corollary of additional trained teachers has been accepted as necessary The assembly hall, after being abandoned for a considerable period as extravagant, during which time the long schoolroom was made to serve its purpose, has been reverted to. In short, the type of elementary school plan deduced from the Act of 1870 has been, with local variations, formulated for some time past on the lines with which we are all fairly well acquainted.

I have taken you at some little length through ancient history beause I wished to show you, as clearly as might be in the time at my disposal, the growth of the plan from the method of teaching. Too many of us take the schools we have to design as merely structures to be contrived to hold a certain number of desks disposed in a given way. Well, it may serve the purpose for the moment to accept the formula which others have worked out. It is, doubtless, economical of time and trouble to collect plates from professional journals, and select what seems most appropriate—as a ready-made clothier reaches down the garment most nearly fitted to his customer—but, believe me, no new development, no original solution of the problem set you, can be obtained without a thorough study and knowledge of the conditions on which that problem is based.

Those of my audience who are acquainted with the new Education Act of 1902 will perhaps pardon me if, before proceeding further, I invite you to glance at the principal provisions it contains affecting our work as architects. The Bill consists of four parts and four schedules. The first part constitutes the new local education authorities, who, as you are all aware, supersede the old School Boards, and are endowed with wider-reaching powers and duties. The essential matter of part 2, from our standpoint, is contained in the opening words:—"(1) The local education authority shall consider the educational needs of their area, and take such steps as seem to them desirable, after consultation with the Board of Education, to supply or aid the supply of education other than elementary, and to promote the general co-ordination of all forms of education." It proceeds to deal with the concurrent powers of smaller boroughs and urban districts, the raising of rates and the religious instruction bogey, with which matters I need not trouble you.

Part 3 confers upon the new authorities the powers and duties of the School Boards which the Act abolishes, and proceeds to direct that they "shall also be responsible for and have the control of all secular instruction in public elementary schools not provided by them." It further requires them to "maintain and keep efficient all public elementary schools within their area which are necessary," deals with their management, the use of buildings out of school hours, endowments and grants, and contains a form of exorcism for spiritual troublers of the peace in elementary, as part 2 already has for higher, education. There is in section 7, sub-section (*d*) a direction as to the upkeep and repair of non-provided school houses.

It would seem that this provision may very much hamper an education authority in its negotiations for a site. It is clear that the notice should be given at the very outset of the scheme, and before obtaining the approval of the Board of Education. Otherwise the latter might be required to arbitrate in a matter which they had already prejudged. Should the Board, after holding a local inquiry, be satisfied as to the propriety of the proposal, the Local Government Board has then to be applied to for their sanction to borrow money to acquire the site in question. By this time the ground may, at any rate in the owner's opinion, have greatly increased in value or be no longer in the market. I cannot conceive of private negotiations being carried on effectively where so long a period must, and an indefinite time may, elapse before the transaction can be completed. Of course there are compulsory powers to fall back on, but these do not furnish the most speedy nor the most economical means of acquiring property for public purposes. Some provisional means of ear-marking a site pending the possible delays would appear to be needed, such as a short lease with option to purchase in a given time and a forfeit for non-completion.

I mention this matter because pretty complete sketch plans and estimates will be required by an Inspector holding such an inquiry under the Act. He is especially directed to inform himself on the question of economy of the rates, and the drawings would have to be prepared at an earlier period of the scheme than heretofore. With the general sections of part 4 I need not trouble you, though you should note that section 22, sub-section (2), limits the age of elementary scholars to sixteen years. The four schedules, too, though interesting to all engaged in educational work, do not come within our ken to-night.

You will not, I trust, consider that this cursory and superficial comment on the Act exceeds the limits of the subject on which I have been bidden by your President to discourse to you. The Act is in itself, as I have shown, of primary importance to every architect engaged in designing schools, and it should be borne in mind that it is, for all that, but the corollary and completion of a round dozen of previous enactments still in existence. Some of these it varies slightly and others widely, but all require to be read and studied in conjunction with it if its full import is to be seized. As I have shown you, our present system of elementary education, and consequently of elementary school architecture, has been founded on the parent Act of 1870 and its subsequent emendations.

The experience in school building requirements gained by that most efficient of Government departments, the Education Committee, now known to us as the Board of Education, was embodied by them in the admirable code of "Rules to be observed in the planning and fitting up of Elementary Schools."

This code has been revised from time to time as occasion equired, and is familiar to all of you who are engaged upon chool design. Excellent as it is, this document is not free from the tendency of all official rules to stereotype plan and rystallise design. Left-hand lighting—a very good thing in ts way where writing and ciphering lessons are to be carried n—has been elevated into a kind of fetish, whereas for some orms of teaching it is not essential. For the important blackboard demonstrations it is bad, the teacher, unless left-handed, having to work with his back to the light and his face in hadow. The arrangement, favoured by the Department, of open-air sanitary conveniences dates from years ago. To oblige a wretched child, quitting a well-warmed classroom, to raverse an open playground in rain or snow without even the shelter of a covered way is, in view of modern sanitary conditions, merely barbarous. All latrines should be properly covered in, protected from frost, and accessible dry-shod in all weathers. The rules as to heating and ventilation are hopeessly out of date, though I am bound to admit that the Board of Education exercise a wise tolerance as to their observance. I do not want to stir up strife, but it must be admitted that, whatever demerits it may have under other conditions, the 'plenum" system can at least claim to have proved itself a success in elementary day schools.

If, however, I have little but praise for these rules for elementary schools, which have been woven on a foundation of experience, and have become, so to speak, suppled and elastic by age and alteration, I am unable to speak in the same terms of the "Rules for the Planning and Equipment of New Secondary Schools," recently issued by the same Department. The serious thing really is that the Board should be issuing cut-and-dried rules for planning buildings of which the actual use is not yet settled. For although "elementary school" is a term very clearly defined by Article 3 of the Provisional Code, no definition of secondary education at present exists, so far as I am aware.

I would venture to suggest to the Board of Education that these rules, both for elementary and secondary schools, should be withdrawn—at any rate for a time—until the effect upon elementary school planning has been observed of the higher education buildings to be provided under Section 2 of the 1902 Act. It is likely, I think, that the local authorities will be strongly desirous of economising in the direction of the lower-grade schools, with a view to balancing the expenditure on the necessarily more costly secondary buildings. This may possibly take the form of larger classes in the lower divisions, and we may even see a second swing of the pendulum towards the long schoolroom combined with classrooms.

The "Rules," I would suggest, might be replaced by a carefully written short treatise upon the actual methods of teaching, illustrating the work of classes in the different standards and their especial requirements. It should be written by an architect and a head-master in collaboration, and be accompanied by sketch-plans of typical buildings, which should be clearly indicated as being suggestions only and not as embodying the considered views of the Board. A new edition revised up to date should be issued every year. Further, I would like the Board to consider school buildings as erected by authority of the Secretary of State, and exempt them from the operation of the in many cases obsolete and absurd local by-laws. The Board has absolute and complete control of the design of the buildings and their construction, and when once they have signified their approval the buildings should not be liable to the ignorant interference of petty subordinate authorities.

I have referred to the secondary school as necessarily costly. It must not be understood by this that I refer to greater elaboration of finish or detail; it is in additional accommodation, owing to the greater subdivision of classes and the increased number of subjects to be provided for, that cost will be incurred Also, there will be many adjuncts to mere scholastic teaching, each demanding expenditure. To take a few of the more obvious by way of illustration. I can conceive of no school going beyond mere elementary teaching without a museum. In one of those six volumes of the "New Review," issued under the dictatorship of the lamented William Ernest Henley, "written," as was said, "by a select few and read by a select fewer," you may find a most fascinating symposium contributed by the High Master of St. Paul's Schools, Dr Gow, the present head of Westminster, and Dr. Wright, of Mill Hill, on the subject of public schools. The latter says:—" In many schools there are really good museums largely filled by the boys themselves The departments of botany, zoology and geology will be each under the management of one boy, and in the winter terms lectures are prepared and given—in many cases before an audience with many strangers present—by the boys themselves. The Photographic Society, also, is generally a vigorous institution, arranging competitions and exhibitions of work and giving lectures on the various methods of fixing, toning and printing. These societies, together with the carpenter's shop and the chemical laboratory, where there is always a band of enthusiasts, afford plenty of occupation for the scientific spirit, while the literary clubs are equally numerous. Many schools have a debating club meeting once a fortnight, a dramatic club, whose members both read and act plays; a literary club and a reading club to manage the affairs of the library and reading-room."

Mr. H. T. Wells, writing to much the same effect, says:— "It should be possible to provide a certain definite number of hours weekly in which the student should be required merely to show that he was doing something of a developmental kind; he would have his choice between the library . . . in which he might either read or write, or the music master, the debating society, the museum, the art studio, the dramatic society, or any concern of the kind that the authorities had satisfactory reason for supposing to be alive and efficient." Such a museum might well be combined with the library, one end of the room being furnished with a table for magasines and miscellaneous literature. Writing facilities should certainly be provided and nooks contrived in the window openings with small reading tables. Then, again, there is the gymnasium, not the mere swing and bars of the elementary school, but a fully-fitted room with apparatus for physical development. A small stage at one end will be found both useful for supervising general work and for taking special lessons. It will also be hailed with rapture by the dramatic society, that most effective of all classes for teaching elocution.

I would urge in addition some more satisfactory arrangement than a merely covered playshed for use in bad weather. This may suffice for a day school, but for a boarding school, at any rate, a plainly-finished room is wanted, where high spirits may be allowed their natural effervescence. A simple method would be to leave piers only in the front and back walls of a portion of the building, filling in the openings with sliding partitions glazed with wire glass. These would stand open in fair weather, while the weather-side partitions would be closed in case of driving rain or snow. One side should be arranged to open towards the playground.

The hall is, above all things, important in the secondary school. The teaching is necessarily much subdivided, and classes will be small, probably reduced to some ten or twelve as events develop, and the hall will be to the scholars the symbol of the school as a united body and not as a class of instruction. And it should not be merely a wide corridor for the classrooms to open from, but a spacious apartment in which school tradition may find a congenial lodging, where naked utility shall be clothed upon with beauty of proportion and large ideas prevail. It should be adapted for all sorts of school functions—lectures, examinations, dances, singing, concerts and every possible form of common interest which will bring the school together and make the scholars realise themselves a part of its life

Without attempting even to catalogue the list of requirements for our new higher education schools, there is one matter which I think deserves more attention than, in spite of terrible warnings, it has at present received. That is, the question of exit from school buildings in case of fire. What is the best form for the staircases, and what their best disposition? How would you deal with dormitories, cubicles or single bedrooms as regards means of escape and prevention of panic? I hope we may have a paper later on on this subject, for it is one of very real interest and importance.

To revert for a moment to the subject of economy in school building It is perfectly evident that local authorities, however desirous they may be of repressing expenditure, will not be able, if their schools are to be kept abreast of educational advance, to reduce the accommodation at present provided. Rather will they find themselves compelled to increase it. This question of economy is to my mind a very serious one in view of the uneasiness prevailing as to municipal expenditure, and anything we as architects can do to assist the authorities to cut down expenses without impairing efficiency it is our bounden duty to attempt. We are too often, I hope always unjustly, accused of extravagance; generally because of some trifling matter of sculpture or ornament which has caught the eye of the objector. We have all known cases where the expenditure of a few pounds on a morsel of decoration which gave interest and artistic value to the whole composition has excited more adverse comment and reproach than if the building had been raised 3 feet all round. Now it is not in such directions that saving in any well-designed building may be looked for. You shall scrape everything out of the work which renders it pleasant to look upon and save but a trifle. True economy must be sought in the reduction of cubic content, and I would suggest that a narrow study be made of the heights necessary for your rooms. At present it is quite commonly directed by the school authority that the classrooms shall be 14 feet or 15 feet high. This is quite unnecessary if a proper change of air be provided for by mechanical means. Once you have settled on the minimum height of window which will properly light your further desks—and with the tendency to smaller classes this will correspondingly diminish—you have found the height of your room. Instead of 14 feet or 15 feet, 12 feet, 11 feet or 10 feet may suffice. Consider a moment what this means—from a two-storey building of 30 feet you will have subtracted perhaps 5 feet or 6 feet of height, say 15 to 20 per cent. over the whole building. For the reduced height means not only the twenty odd courses of 1½-brick or 2-brick wall, but lighter girdering, lower and cheaper stairs, better intercommunication, and, not least, longer and lower lines in your composition. Schools as now built are very apt to run into square, or even vertical and unrestful lines in design.

To obtain true economy two things are wanted. First, the rules of the controlling department must be elastic and interpreted with a liberal intelligence, to the encouraging of original thought on the part of the designers; second, local by-laws must not be permitted to override designs approved by the State Department. I might add a third want, but you will consider it superfluous, there are so many—a good architect.

I notice that Sir John Gorst, in his recent address to the Association of Technical Institutions, expressed the opinion that there was nothing which tended more to cause confusion in administration or to obstruct education than the attempt which has been made to divide education into three water-tight compartments, labled elementary education, secondary education and technical education, and to keep those compartments as far apart from one another as it was possible. He went on, it is reported, to declare that there were millions of young people in this country upon whom enormous sums had been spent in elementary education, and upon whom that money had been absolutely thrown away. His view, as I understand it, is that technical instruction should be introduced into both elementary and secondary schools as part of the regular curriculum. Sir John Gorst is an educational authority whose opinions are worth having, and looking to the fact that there has been a waste in technical education corresponding at least to that he speaks of in elementary matters, it may well be that some such combination as he indicates awaits us in the near future. If so, our type of plan will undergo a conforming change.

I mention this as indicating how absolutely necessary it is for us architects to acquaint ourselves with the objects and methods of those responsible for education, if we are to appreciate their varying requirements and embody them in fitting buildings. He is but a poor architect who must have all his employer's ideas formulated before he attempts to design his building. The true artist will put himself in a position by previous study of his subject to appreciate and aid by his suggestions the development of his client's aims.

Gentlemen, we are looking upon the dawn of a new era in the education of our country. Bearing in mind that many of my hearers are yet upon the threshold of, as I trust, a prosperous and successful career, you will perhaps pardon me for having spoken to you less of actual school buildings than of the principles which underlie them. For it is the very root matter of good design that it shall arise from the comparative study of what has preceded it. Whether your knowledge of your subject be thorough or whether it be superficial, it shall nevertheless influence your work, in the former case to honour, in the latter to dishonour. It is for us architects, then, to prepare ourselves at this dawn of a new day, lest that hoped for, but most searching, morning breeze called responsibility catch us unready. I trust that to your hands may be entrusted many of the buildings to be erected under the new Act. And this from no mere desire to see you with work to do, though there is nothing more agreeable to architects than to see work entrusted to their competent brethren. I was lately shown a table of statistics drawn by some ingenious doctor, an Italian, I think, which professed to show the relative degrees of jealousy existing in various occupations. According to this authority we were quite at the foot of the list, jealousy being practically non-existent among architects. I trust and believe that this is so, and that it may always remain so.

But I would offer a better, and more largely founded, reason for wishing you this work than the desire for your personal welfare. It is to you, the young men, that we look for quick appreciation of new conditions—it is you who carry our hopes for fresh and new renderings of the old facts under those new conditions. Moreover, you are not yet smirched with officialism. So certainly as ever an architect becomes an official, so certainly will he lose his keen sense of his art and rest, as far as maybe, from inventing. There have been many able official architects, and they will, I think, admit to you, if you take them aside, that their life is a weary round of routine and committee meetings, insomuch that design is choked within them, and they repeat contentedly convenient fragments of the past.

I have spoken much on the plan and its foundation, and, you will say, nothing of the elevation. Do not think that I esteem the one as of more or less importance than the other. As the plan develops from the conditions, so the elevation from the plan. Moreover, I am not one to admit that there is more or less art in one than the other. Planning does not reach its end, and you must not rest content with it, when it has disposed of the requirements in commodious fashion. That, certainly, it must do, but much more too. A fine plan is a fine piece of design, and you may no more expect the highest kind of elevation without a plan of equal excellence than you may have a perfect body of flesh upon an imperfect skeleton.

There is plenty of scope for the artist in school planning. That all plans may be entrusted to artists, and that you all may be counted, if not among the school planners, at any rate among the artists, is the best thing I can desire for the good of the Architectural Association.

Mr. P. A. Robson said there were two vital points which govern all school planning:—(1) The unit, which is the child; (2) the aspect or north point. The latter (being easily spoken of, I take first) simply consists in this northern climate of ours in giving each unit as much sun as possible. Every classroom, except those used for art purposes or science, should receive the sun's rays during some part of the day. With regard to the unit, unless it is duly regarded, the planning must be bad, and therefore the design bad. In elementary National schools the five-seated long desk has been rather a favourite, because at times of entertainments the desks were removed into a classroom or rooms, and by sliding a partition a good-sized hall was often available ready seated. And for the same reasons stepped galleries were avoided. In Board schools dual desks reigned supreme; in higher schools single desks with 18-inch gangways are preferred. Hence we should see that to be an economical planner we must study the unit and the seating first. Personally he thought all these systems bad, and that single desks arranged dually, but with, say, a 6-inch gap between, would be far better for all purposes. So we should get an 18-inch gangway, one 2-feet desk, a 6-inch space, another 2-feet desk, and then another gangway, &c. Having settled your seating arrangements, it was well to consider annual maintenance:—(1) Number of teachers and "pupil teachers," (2) size of classrooms, (3) whether a central hall is required. Owing to its excessive cost outweighing the advantages, the central hall had latterly come rather into disfavour, and a compromise had been made by having a central hall corridor—anything from 12 feet to 20 feet wide—which answers all purposes. The Board of Education's latest production (in the way of rules) was unfortunately law, and, therefore, had to be noticed, or he should prefer not to; but, as a new edition was, he understood, in the printers' hands, he would but comment on one curiosity in the current issue:—Given a school of 150 with a first floor (*i.e.* say with seventy children upstairs), there must be two staircases 4 feet wide per flight, or one staircase for every thirty-five children. Let us trust the new issue may prove a help and not a hindrance to the proper planning of schools. With regard to Mr. Simpson's remarks about latrines, to connect these with the school buildings by covered ways, this was surely hardly necessary, and also wasteful of playground space. Moreover, it hardens children to be about in the open air, and has a tendency to decrease consumption, which arises not from hereditary disease but from unsuitable food and want of fresh air. We shall be heating the corridor to the latrines next. Also, is it wise to render the school buildings hopelessly at variance to the rough home-life of the average child? In most towns you see them after hours, in any weather, without coats playing in the streets. It seemed to him that schools must gradually improve as the homes improve, always keeping a little ahead and being an education in themselves, but not an unattainable ideal, as some schools are now, making the child discontented with his home life. And remember, if you sacrifice the proper home life you sap the very inmost vitality of England. Do not, therefore, make your schools ridiculously luxurious; rather give them such a thing as a small swimming-bath for a district than cover the ways to the latrines in all the schools in that district. Now a word or two on design. By far the majority of schools all over England have bad elevations. This is not as it should be, and it is for you to remedy. The President of the R.I.B.A. had courageously asked them not to neglect imaginative literature. He ventured to suggest that music was even better still as a stimulator to the imaginative faculty. To use the words of a great critic, "Music, then, not poetry, as was so often supposed, is the true type or measure of consummate art. Therefore, although each art has its incommunicable element, its untranslatable order of impressions, its unique mode of reaching the imaginative reason, yet the arts may be represented as continually struggling after the law or principle of music, to a condition which music alone completely realises; and one of the chief functions of æsthetic criticism, dealing with the concrete productions of art, new or old, is to estimate the degree in which each of these products approaches in this sense to musical law." Let each of us, therefore, try to make our plans right; it will then be the easier to make our designs "frozen music."

Mr. John Slater, who proposed a vote of thanks to Mr. Simpson, said the paper had taken a line which perhaps many of them did not expect. The retrospect on the earlier schools was valuable, and since he was old enough to remember some he National or British schools it was interesting to notice ivergence in plan which existed in Prussia before our own lopment of the educational systems. In writing a paper hools no one could avoid mentioning the Prussian system, use it was about the best that existed anywhere. They appreciated the fact that the range of learning necessary ake an educated man varied at different times under rent conditions, with regard to the bent of the individual, they adopted a system of education very like that proposed for England.

Mr. F. J Osborne Smith seconded the vote of thanks.

THE PUBLIC RECORD OFFICE.

N February 27 several of the members of the Upper Norwood Athenæum visited the museum of the Public ord Office under the guidance of Mr. Thomas H. Alexander. oved a mine of interest to those who attended. Here for first time was seen by the majority of the visitors the able and venerable Domesday Book, in two neatly written unpretentious volumes, a large and a smaller, the former taining the survey of the counties not mentioned in the ller volume, and opened at "Glowecestrescire," the latter prising the survey of "Exsessa," "Norfulc," and "Sudfulc." e beautiful monuments on one wall of the museum, to hard Alington, to Lord Bruce of Kinross, and to Dr. John g, Master of the Rolls and Dean of York, were regarded attention, the monument to Dr. Yong (d. 1516) being of ptional beauty and interest. It is attributed, with every w of reason, to Pietro Torrigiano. A revolving pedestal tains some 109 autograph letters written by such worthies William of Wykeham, Geoffrey Chaucer, many of our kings, ens and royal princes, Cardinal Wolsey, Sir Philip Sidney, Francis Drake, Edmund Spenser, Ben Jonson, Guido kes, Francis Bacon and many others. Papal Bulls, ninated and engrossed, charters of various kings, also illu- ated, letters from Admiral Viscount Nelson and Bronte, log of His Majesty's ship *Victory*, letters from Bonaparte Wellington, these were but a few of the priceless treasures se examination by the members proved a most delightful upation.

The party then made for the church of St. Clement Danes, ch they examined under the guidance of the Rev. W. Earle, ., the carved woodwork and the pew usually occupied by Johnson coming in for special attention, and then the nbers adjourned to Anderton's Hotel for tea. The late irman's seat was occupied by Mr. F. W. Potter, who feel- y alluded to the great loss the Athenæum had sustained by death of Mr. Quartermain It was resolved to send a er of sympathy embodying the sentiments of the members the matter to Mrs. Quartermain and the family.

The following paper by Mr. Alexander was read :—

The museum of the Public Record Office is, like the Rolls apel, which it has superseded, a repository of records, but exclusively of records of the Chancery. As late as the inning of the reign of Queen Victoria, the national archives e scattered in some sixty different places, such as the Tower London, the chapel of the Rolls, the chapter-house and the pel of the Pyx at Westminster and the State Paper Office ; an Act passed in 1838 had for its object their eventual centration in one building under one management. The tinctive feature of this vast collection of documents is that y are of a more or less official character, and the great jority have remained in official custody ever since they were tten.

The documents selected on account of their historical or istic interest for exhibition in the museum range in date m Domesday Book to the Coronation Roll of Queen Vic- ia. I propose to refer to a few of these documents in order amplify what I have already said with regard to the Duke Wellington, viz. that history dovetails in and interlaces itself th all the various places which we visit.

And before remarking upon the documents individually, I y say that I find it recorded that Hugh Peters, during the mmonwealth, suggested that they should be collected gether and burned at Smithfield, but that tough-headed old wyer, Prynne, in 1656, wrote a pamphlet in which he very bly epitomises the value of these treasures.

If we carry our minds back to the visit which we paid with r. Downes to St. Saviour's Church, Southwark, and his per touching upon "The Pilgrims" and the "Canterbury les," we shall find the document by Chaucer specially teresting to us. I find it recorded with regard to Geoffrey haucer (1340-1400) that there are few fields of research in ich antiquaries from Skeat to Furnivall have laboured so uch, or with such good reward, as in the case of Chaucer, d this because few poets have been so mixed up with public fairs. I find that in 1374 he had a grant made him, in nnection with the office which he held, of a pitcher of wine daily, and later on he was appointed Controller of Wools, Skins and Tanned Hides in the port of London.

The next document was signed at Bristol Castle. Although I know Bristol fairly well I do not think that I knew that the city ever possessed a castle, and although Bristol is mentioned in Domesday, Bristol Castle is not, but appears first in history in connection with the constableship of the martial prelate Geoffry Mowbray, Bishop of Contance, nephew of the famous Tancred the Crusader, who held the fortress for Robert, Duke of Normandy, against William Rufus. In 1655 the castle was demolished by order of the Protector.

If we refer to Mr. McKay's ramble to Eltham Palace in 1899, we have just seen in case H 80 a warrant signed at this palace by Richard II. And now to give some account of the Rolls Chapel, which stood upon the site of the museum.

An Act of 1837 clearly contemplated a possible demolition of the chapel, and in the plans for the Public Record Office made by Sir James Pennethorne in 1850 the whole site of the chapel had been allocated to rooms intended to serve as repositories of documents. On further consideration, however, it was thought that it might be possible to incorporate the chapel in the new block of buildings. This scheme was, however, abandoned when it was found that the old rubble walls, which about 1784 had been coated with a thin external layer of flints on all parts which were not protected from the weather by adjoining buildings, were thoroughly rotten, stonework and mortar having alike decayed with age. There was no architectural work that could be "restored" without being altogether remade mostly from entirely new designs. Under these circumstances the First Commissioner of Works decided, with great reluctance, that the chapel should be pulled down. Special treatment has, however, been given to that portion of the new building which occupies its site, and the old monuments and stained glass have been refixed therein.

The building recently known as Rolls Chapel was originally the chapel of the House of Converts, which was founded by Henry III. for the reception of Jews who had embraced the Christian faith. The earliest specific reference to the House of Converts occurs in a royal charter dated January 16, 1232, by which the founder assigned a yearly sum of 700 marks for the maintenance of the inmates, "and for the construction of their church and their buildings." Matthew Paris, the chronicler of St. Albans, states that Henry III., about November, in the seventeenth year of his reign, 1233, built at his own expense a certain church at the place where he established the House of Converts in London, not far from the old Temple. Edward I., Edward II. and Edward III. alike made grants for the maintenance and adornment of the fabric.

Out of nine persons who were keepers of the House of Converts between 1307 and 1377, no less than eight were also keepers of the Rolls of Chancery. Dr. John Yong, Master of the Rolls and Dean of York, who died in 1516, left directions in his will that his body should "be buried in the Chapell of the Rollys." Marriages were sometimes performed in the chapel, as in 1608, when Wm Cavendish, afterwards Earl of Devonshire, married Christiana, daughter of Edward, Lord Bruce of Kinross, Master of the Rolls ; and in 1615, when Sir Julius Cæsar, Master of the Rolls, married Mrs Hungate, who was given away by her uncle Sir Francis Bacon.

The existence of two chaplains and of converts from Judaism, four in number, is mentioned for the last time in 1608, and in the reign of Charles I. we read of a preacher at the Rolls during the law term admitted by the Master of the Rolls with the approbation of the six Clerks of Chancery. Although the converts for whose benefit the chapel had been founded by Henry III. had ceased to exist, the Master of the Rolls did not obtain the exclusive use of it. In 1708 it was reported that the preacher received 10*l.* a term from the Master of the Rolls, and that the salary was made up to about 100*l.* a year by the Masters in Chancery. Almost immediately after the Restoration the Master of the Rolls was empowered by Act of Parliament to grant leases of portions of his official estate ; but the "Chapell of the Rolls" was specifically excepted from the scope of it, and there are indications elsewhere that it was regarded as national property.

At some time in the middle of the seventeenth century the Rolls Chapel was seriously mutilated. No written record has been found showing the date or the nature of the work done, and we have to rely exclusively upon architectural evidence. Two eminent preachers at the Rolls deserve a passing notice—Fras. Atterbury, who was appointed in 1709, and Joseph Butler, who was appointed in 1718. In 1717, Colin Campbell, the architect, was appointed to pull down the House of Converted Jews in Chancery Lane and build a new edifice for the use of the Master of the Rolls, and likewise to repair and improve the chapel of the Rolls, &c.

There is no record of the date at which the chapel of the House of Converts began to be used as a repository of the national archives In 1558 a sum of 50*l.* was paid to the Master of the Rolls "for so muche by him bestowed uppon the making of presses to kepe the records of the Rolls," but the chapel is not specifically mentioned. Nine years later Queen Elizabeth, considering that it was not meet that the records of her Chancery, which were accounted a principal member of the treasure belonging to herself and to her crown and realm, should remain in private houses, directed Sir Wm. Cordell, Master of the Rolls, to deliver to the keeper of the records in the Tower of London all the rolls and records of the Chancery from the reign of Richard III. to that of Edward VI. inclusive. It is clear, however, that this mandate was for some reason disregarded.

In 1833, Sir Robt. Inglis and Mr. Hallam visited the Rolls Chapel on behalf of their colleagues on the Record Commission, and drew up a statement, in which they said :—"It was fitted up in 1812 by the late Sir Thos. Plumer, when Master, and exhibits a most remarkable specimen of the extremest economy of space, the very seats of the chapel being in fact cases for records."

An important change was made in 1837 by a statute which enacted that the whole of the Rolls estate, including the chapel, should henceforth be vested in the Crown, and should not again be granted to the Master of the Rolls for the time being. Provision was, however, made for the performance of Divine worship "in the said present chapel, or upon or near the site thereof," a yearly sum of 225*l.* for the salaries of the preacher, the reader and the clerk being charged upon the Consolidated Fund.

The foregoing account shows that the Rolls Chapel was used not only for Divine worship, but also for the preservation of the records of Chancery. Its third character was that of a meeting-place for creditors and debtors. In 1641 it is mentioned as the place at which Charles I. was to repay a loan of 2,000*l.* made to him by Sir John Lambe, and four years later a Mrs. Staveley sent her agents to receive the alimony which her husband had been ordered to pay. Recently the Rolls Chapel was the place at which mortgagees or their representatives were ordered to wait for an hour, or sometimes for two hours, before proceeding to foreclosure. A representative of the Public Record Office had to be present, and the fees received by him for such attendances went to the credit of the Department. This anomalous system was terminated in December 1889, when the Lord Chancellor agreed to the substitution of a room in the Royal Courts of Justice for the Rolls Chapel as the trysting-place for mortgagors and mortgagees.

In the east wall, while the chapel was being demolished, one of the most interesting discoveries was made, the removal of some of the rubble revealing the existence in the core of the wall of a fine chancel arch of the time of Henry III. The arch was taken down, every stone of it numbered and put away with the intention of re-erecting it, completing defective parts with the fragments which were discovered in the north and south walls of the chapel. The monument of Dr. Yong had long been the chief ornament of the Rolls Chapel, and it is one of the finest examples in England of the monumental art of the Italian Renaissance by Pietro Torrigiano.

In conclusion, I must acknowledge my indebtedness for the bulk of the information contained in this paper to my friend, Mr. Scargill-Bird, the secretary to the Public Record Office, who kindly lent me the official catalogue and the report upon the chapel.

A discussion followed, in which the Chairman, Messrs. Wheeler, Spiers, Downes, Thatcher, the Editor and the Rev. W. Earle, B.D., who was selected to membership with two other gentlemen. A cordial vote of thanks was accorded to Mr. Alexander, who responded.

RECENT EXCAVATIONS IN ROME.

THE interest of the excavations in the Forum is at present, says the *Manchester Guardian*, centred chiefly round the prehistoric necropolis situated not far from the Temple of Antoninus and Faustina. The first tomb was discovered in April 1902, and the exploration of the cemetery, a work which requires great care and patience, is not yet complete. The position of over twenty tombs has so far been ascertained. They are of two kinds—the cremation tombs, which are the earliest, and the inhumation tombs. In the former the ashes of the dead were placed in an urn, which, with several other small pots, was enclosed in a larger vessel, 2 feet or more high. This vessel was buried in a hole dug in the ground and covered with lumps of stone. In the inhumation burials, on the other hand, the body was, if that of an adult, placed in a trench and covered with stones, or, if that of an infant, first enclosed in a section of a tree trunk. The tombs of this latter class have in some cases cut into the cremation tombs, and the character of the pottery found in them, which begins to show traces of Greek influence, is another proof that they are later in date. To which of the settlements on the neighbouring hills this necropolis may have belonged cannot be certainly determined. The earlier (cremation) tombs are very similar to others tha have been found on the Esquiline and in the Alban Hills, an two or three of the urns containing the ashes of the decease are made in the form of a primitive hut.

Underneath the open area of the Forum a system c vaulted passages has been discovered. They seem to belon to the later days of the Republic, and are reached from abov by means of shafts, in which lifts worked, being hoisted an lowered by windlasses. It has been conjectured that the were used for the storage of properties connected with th games and shows which took place in the Forum. A part c the system is broken into by a large concrete base, abou 40 feet by 20 feet, which very likely may have supported th equestrian statue of Domitian mentioned by the poet Statius the statue would have been about six times life-size.

Outside the Forum the main interest centres in the excavations of the Ara Pacis, on the west side of the Via Flaminia (th modern Corso), erected in 9 B C. in honour of the restoration o peace by Augustus in the western half of the Roman Empire The extent of the monument has for the first time been determined. It consists of an altar surrounded by a wall of blocks c white marble, carved in relief upon both sides ; the enclosur measures some 34 feet by 38 feet. The reliefs are probabl the finest production of the art of the Augustan period, and th work now in progress has led to the discovery of several ne and important fragments, some of which may still be seen lyin as they fell. Owing to the fact that the marble thresholds of th openings by which the altar is approached lie some 5 feet belo the present level of the Tiber, and that there are moder buildings above, the work presents considerable difficulties, an progress is necessarily slow.

LIVERPOOL CATHEDRAL.

ON Monday evening Mr. G. Gilbert Scott, joint architect of th Liverpool Cathedral, gave before the members of the Liverpool Architectural Society an address explanatory of the ne cathedral, and exhibited twenty drawings of the majesti building to be erected on St. James's Mount, the foundation stone of which is to be laid by His Majesty the King. Mr John Woolfall, took the chair, and there was a larg attendance of prominent architects and gentlemen interested i the cathedral movement.

The Chairman, in introducing Mr. Scott, said the name c Scott was well known in connection with ecclesiastical architecture Sir Gilbert Scott, Mr. Scott's grandfather, was, a they were well aware, a great authority ; his knowledge c Gothic art had preserved for us in almost every village an cathedral city the rich treasures of bygone art. With suc antecedents Mr. Scott came amongst them that evening and to his genius, associated with that of Mr. Bodley the cathedral committee had entrusted the honour c erecting for Liverpool that which had been so lon cherished—a noble cathedral. He was glad Mr. Scott was young man, and he hoped he would see both the beginnin and the end of his masterpiece He did not know wha instructions the committee had given their architects, but fo the lofty spirit which proposed great public works he migh commend them to the records of the Florentine Republic. I was in order to instil into Liverpool the patriotism for religion to surround religion with all the beauty the mind of man coul devise, and that the soul could be assisted and taught throug the language of art, that it had been decided that a magnificen cathedral should be erected. He hoped a thousand year hence it might be a witness of our faith and devotion, an that no pecuniary cares would be allowed to interfere with th architects' aspiration.

Mr. Scott said it was a source of very great pleasure an confidence to him that his design had been approved b eminent members of the architectural community. It was, c course, impossible to produce a design which would satisfy a critics, and if they attempted to do that they would succeed i pleasing none. There was no concealing the fact that the proposed erection of a cathedral for Liverpool was epoch-makin in the history of English architecture, because they were building a vast church which in point of size was not equalled b any cathedral church in the United Kingdom, and which woul go down to posterity as an example of architecture durin the first half of the twentieth century. Much advance had bee made during the last fifty years in the architecture of this country but we were still far from having a distinctive national style. I was little short of a calamity that such a state of things shoul exist at the present time, for this was undoubtedly a period o extraordinary building activity which had no parallel in th nation's history. Let them consider the enormous building that were being erected throughout the land, upon which vas sums of money had been expended, and to what æstheti purpose. They would stand condemned in the eyes o posterity by these ghastly blunders, so long as people ignore e fact that architecture was an art and not a business, and ing so required an artistic nature. The all-important and rning question of style in present day architecture was nstantly being discussed, and when a work of such magnitde as a cathedral was undertaken the discussion became oubly keen Those who clamoured for a new style lost sight the fact that no new style had ever come suddenly to existence and flourished. The whole history of chitecture showed a slow and gradual development, d was it likely they were going to alter all of a dden that which had been the rule for thousands of ears? Was there the slightest probability that when a ilding like the Liverpool Cathedral was contemplated a new nd original style would suddenly come into existence—a yle which was not only original, but, what was far more important, beautiful? To some the latter seemed only a secondary onsideration, and their frantic efforts to attain originality at e expense of beauty would be most reprehensible were it not pathetic. If they waited until all architects were united in roducing a fine national style Heaven only knew when Liverpool would possess a cathedral. The desire expressed by the ommittee, but subsequently withdrawn, that the cathedral hould be a Gothic building, no doubt influenced many who, ke himself, were wavering between the claims of Gothic and hose of other styles. Personally, he was not a rabid Goth, and othing annoyed him more than to hear people remark that no ther style approached the beauty of our English Gothic. No one admired and loved this beautiful style more han he did, but to hold it up as the very acme of perfection, in omparison with which all other styles were hopelessly inferior, displayed narrowness and ignorance which were lamentable. Although he decided upon Gothic, he confessed he had dreams of quite another style, or rather the development of a style. But his ideas had not had time to mature, and he preferred until he was older to remain on safe ground rather than court failure by being too previous. Gothic could not go much further. It was nearly at the end of its tether, and before very long would die out as completely as it did in the sixteenth century. Whether Liverpool Cathedral would rekindle the flickering flame and prolong its life a few years or whether this was the last flare-up of the Gothic revival it was idle to speculate. It might mark the end of a notable movement which, if it had not achieved any very great success, had without doubt paved the way for better things. Gothic architecture underwent a process of development lasting over 400 years, which seemed to us with our modern ideas of time a period of extraordinary length in which to make so comparatively small an advance. Was it surprising, therefore, that we failed to get much further in a style that had already been completely worked out? In spite of these objections, however, he decided upon Gothic, because he more or less understood it, and felt tolerably safe. In preparing his design he decided that solemnity was to be its keynote, and this included dignity, grandeur and simplicity. The whole effect at which he aimed was to be produced by the massing, grouping and proportion of the various parts, not by prettiness or luxuriance of detail. No amount of rich ornament could, to his mind, equal the beauty and charm of a blank wall relieved by a touch of rich detail. This lack of blank wall was perhaps the least satisfactory feature of our fine old cathedrals. In designing a modern cathedral the first thought that occurred was how to treat the central space. He felt convinced that the central space must be so designed as to form the predominating feature of the cathedral, both inside and out, and the planning and designing of this important part was the first difficulty to be got over. He was compelled, however, to abandon the idea of treating a large central space satisfactorily, but he still felt that whatever form the central feature ultimately took it must above all things be the crowning feature of the exterior, so that the eye would be carried up from the less important parts to it, the latter in their turn giving scale and as it were supporting the central pile. The actual floor area of the central space, as now planned, was not less than the area of the octagon at Ely, which fact helped them to realise that the space at the crossing was not so small as was commonly imagined. This feature had been the cause of a good deal of discussion, many being under the impression that he had infringed the conditions of competition. There was absolutely no condition that the central space should be large and capable of seating 3,000 persons—there was a suggestion, certainly, but no condition. Some had remarked that the central space would be very dark, but they had evidently not noticed the four windows which opened directly into the central space The great windows at the end of the tower transepts would play an important part in the lighting of this space. The adoption of the cross transepts in the nave and choir was not decided on merely because the idea was novel, but originated from a feeling that the Byzantine and Renaissance form of vaulting, namely, with domes and barrel vaults. was a far more impressive and dignified way of roofing a space than the intricate and fanciful, though no doubt beautiful vaultings of Gothic work. There was a peculiar solemnity and majesty about the dome and barrel form which was entirely lacking in the Gothic, and though he had great admiration for it he preferred the simpler and broader treatment. All the mouldings, &c., were being designed by Mr. Bodley, who stood unrivalled as a designer of beautiful and refined Gothic detail. The red sandstone to be used in the Liverpool Cathedral lent itself to large and simple mouldings, and it was fortunate that this stone was especially adapted to a type of moulding which would be thoroughly in character with the rest of the building. The original intention of having a great western court flanked by cloisters had been abandoned owing to the limitations of the site. Unfortunately there was no direct approach to the west end. If they could have arranged a fine road leading from the west front, it would have been easy to get such a fine feature as suggested, with steps running the full width of the court from cloister to cloister. Although the site had several faults, it was on the whole a very fine one; it possessed a feeling of romance, which he hoped would be increased when the vast pile was completed. Lack of interest in buildings erected nowadays had been partly responsible for the forced and affected originality which characterised a great deal of modern architecture. A building should be made as interesting as possible, but beauty, which should be the first consideration, must not be sacrificed. In designing the cathedral he had endeavoured to impart a certain amount of interest to the building, taking care not to ignore beauty in order to insert a piece of originality. He could only hope that when completed people would be unable to say of the cathedral, "It's the same old Gothic; we've seen all this before." If those who came to scoff remained to pray, and those who came to glance remained to gaze his object would be achieved, and the labour expended on the designs would be repaid a hundredfold.

Mr. E. Kirby, in proposing a vote of thanks to Mr. Scott, remarked that in St. George's Hall and the cathedral Liverpool would have two of the finest buildings in the world, and it was a coincidence that both the young architects who designed them were associated with leading men in their profession, Mr. Elmes being associated with Professor Cockerell, and Mr. Gilbert Scott with Mr. Bodley.

Mr. T. D. Barry seconded.

Mr. Richard Dart, C.C., a member of the cathedral executive, supported the resolution, and appealed for united support in order that the cathedral might be worthy of the city in the highest possible sense.

The resolution was adopted with acclamation.

ENGLISH DOMESTIC AND MILITARY ARCHITECTURE.

THE fourth of the course of University Extension lectures being delivered in Salisbury by Mr. W. H. St. John Hope treated of domestic and military architecture in the fourteenth century in England. During that period, which embraced the reigns of the three Edwards and Richard II., the condition of this country was eminently peaceful, and art generally was of high excellence. The prosperity of the times is indicated by the increased size of the houses and the greater degree of comfort. In the previous century the military buildings began to give place to a more domestic type, but even in this century the buildings were fortified to a certain degree as though the inhabitants could hardly realise such peaceful times. Of the lesser farms and cottages no examples are preserved, which is probably owing to the Black Sickness that swept over England and carried off a large number of the inhabitants, leaving the homes desolate. We find, however, a continuity of wooden construction, and though some of the houses were built of masonry the absence of kitchen and offices in the remains suggests that they were built of wood. The canon's house and cloisters of Windsor Castle, 1350, remain almost as the original, though other parts of the Castle have been altered. There was a prevalence of the hall and chamber type of manor-house. These halls generally formed the centre of the building, entered at one end by the screens, beyond which were the kitchen and buttery, and above the solar or great chamber. The hall was heated by a round fireplace in the middle, the smoke from the fire being carried off through a hole in the roof. At the end of the hall, opposite the screens, was a daïs, at which sat the lord of the household, the retainers sitting at long narrow wooden tables placed down the sides. If there was a chapel it was above the daïs end of the building. As to the floors, the lower ones were made of flags and the upper ones of wood, strewn with rushes; the windows were divided by a transom, the upper part glazed and the lower covered with wooden shutters; the walls plastered and coloured, sometimes painted, while the roofs were covered with shingle or thatch. In some cases the heavy shingle roofs were carried by stone arches. A fine example of such a hall is one at Penshurst, the ancient home of the Sidneys, where the round fireplace and retainers' tables are still to be seen. Of the simple two-storeyed houses not many remain, the best known being at Meare, in Somerset. Of the courtyard type of house Penshurst is a very fine example, extending over various centuries, but begun in the early part of the fourteenth. In this century evidences are given of licenses granted to towns, houses, belfries and monasteries to crenellate or fortify. Some of the houses at this time were built with projecting stones supported by wood, which was often ornamented. The building of military castles was now declining owing to the subjugation of the country, though the castles of Conway and Carnarvon were not finished till the fourteenth century, and there were also one or two new ones built where it was considered necessary, such as at Queenborough and Cowling. The plan of the buildings seems to have changed, Warwick, Ludlow and Kenilworth being good examples of the time. Alnwick Castle originally had a tower on a central mount, but the construction has been changed, and also that of Raby, built about the same time, and the domestic portions were brought into more prominence. The pele towers of the Border counties were built for protection against the marauders and cattle stealers. These consisted of a basement into which cattle could be driven in time of danger and a room above for the caretaker or tenant. Towards the end of the century two groups of tower houses appeared, those in the north with square, and those in the south with circular towers. These are types of the great towers of Rochester and London, the tower being pulled out as it were to form a courtyard in the centre, and the hall moved to one side instead of being in the middle. Such examples are Bolton (1379), and the latest Lumley (1392.) The gatehouses typical of the fourteenth century were not built to live in but for defence, and had a long barbican stretching to the open country. Those of the monasteries were used for the poor folk who came for shelter, and a beautiful example of one is at Thornton, which also boasts a fine oriel window. The tops of the towers were ornamented with figures. Other examples of monastic gatehouses are Ely (1386), and the well-known west gate of Canterbury, built at the expense of Archbishop Simon. At York remains the only example of a gatehouse with a barbican still attached, most of them having been removed as they obstructed the traffic. As to the building of towns, Winchelsea remains only in plan, as the operations were stopped owing to the Black Pestilence (1349.) Kingston-on-Hull was built and the church of Holy Trinity dates from 1312 and 1319; a wall of bricks was placed round the town. Coventry was walled at the middle of the century. The houses now were built larger in the towns, and there is evidence of the hall type. Bricks seem to have been used for building and were in imitation of the Roman kind.

LIVERPOOL ARCHITECTURAL SOCIETY.

ON Monday evening Professor Simpson was the recipient of a silver inscribed inkstand from the members of the Liverpool Architectural Society. In the years 1900-02 the Professor was President of the Society, and this presentation was a farewell mark of esteem, he having resigned the chair of architecture at Liverpool University to take up a similar post at University College, London.

Mr. John Woolfall, F.R.I.B.A., presided, and in presenting the testimonial to Professor Simpson he paid a high tribute to his personal worth, and endorsed the expressions of the University Council in regard to him. There could be no doubt that his resignation of the chair of architecture at the University was a serious loss, not only to his own department but to the University as a whole and the architectural profession in the city. By persistent and energetic effort he had built up a school of architecture the reputation of which extended far beyond Liverpool, and had attracted students from remote parts of the country. He also secured for architecture inclusion among the courses of study qualifying for University degrees, and obtained due recognition of the degree and diploma from professional authorities. Professor Simpson was president of the Liverpool Architectural Society for two years, and was the first president they had had from the University. He proved a most painstaking officer, and the members of the Society, in presenting to him a token of their esteem, trusted he would be blessed with health and successin his new sphere.

Professor Simpson, in returning thanks, said it had always been a source of the keenest gratification to him that during the nine years he spent in Liverpool he was on terms of friendship with the architects of the city. He came to the city a stranger, with the object of starting a new scheme, and he was doubtful of the reception that would be given to it, but he received a kind welcome and the warmest support. This was invaluable to him, because the scheme he initiated was something that it might not have been possible to work if he had not had the support of the architects of Liverpool. By a happy coincidence his successor, Professor Reilly, was present that evening, and he would ask them to extend to him the same friendship and support which they gave to himself during the nine years he spent amongst them. Professor Reilly was well known to all architects in the city, and also to members of the cathedral committee, inasmuch as his design for the cathedral was the only Classic one which received mention from the assessors. In conclusion, Professor Simpson said he should always remember the happy years he enjoyed in association with Liverpool architects.

GENERAL.

Mr. Aston Webb, R.A., has been elected a member of the Athenæum Club under Rule II., which empowers the annual election by the committee of nine persons "of distinguished eminence in science, literature, the arts, or for public services."

The Royal Society of British Artists elected the following members on Monday:—Messrs. J. R. Bagshaw, T. W. Holgate, John Muirhead, F. Mason, Cyril Roberts, J. Anderton.

Negotiations have just been closed for the building of the sixth skyscraper hotel in New York. The building will cover two blocks just north of Madison Square. It will have a capacity for the reception of 4,000 guests.

The Civil Service Estimates state that 4,330*l.* more will be spent on the Houses of Parliament buildings, including 3,000*l.* in improving the ventilation of the House of Commons and 900*l.* in providing a lift to the Press Gallery.

The Government of New Zealand have sent the Lord Mayor, through the Agent-General, a sum of 15,000*l.* as a contribution to the Queen Victoria memorial in process of erection before Buckingham Palace.

An Art Exhibition will be held in Berlin from April 30 to October 2. The plans for the arrangement of the space were prepared by Herr Schweitzer. It is anticipated that a great many architectural drawings on interiors will be shown.

The Clacton Urban District Council, Essex, are promoting a conference of local authorities and owners in the seaboard districts between Clacton and Walton-on-the-Naze to consider what steps should be taken to obtain the assistance of Parliament in the work of coast defence. Clacton has already spent about 70,000*l.* on sea defence works, and about 50,000*l.* has been expended by the Frinton and Walton Councils. A further outlay of 100,000*l.* is advised.

The Admiralty are to build a generating station to supply Devonport and Keyham Dockyards with electricity for power and illumination. The same works are to supply other Government buildings. The plant is to be delivered next October, when the extension works at Keyham will have been completed. The tramway between the two dockyards will be worked by electricity. The number of men employed will be increased from 10,600 to 15,000.

M. Roukhomowski, the author of the notorious Tiara of Saïtapharnes recently in the Louvre, has presented to the lottery of the French Union for the Saving of Infants, a bronze plaquette humorously showing the history of the tiara.

An Exhibition of works of the eighteenth century by Watteau, Boucher, Chardin, Latour, and Fragonard, will be held in Paris in May and June.

The Pyx Chapel, Westminster Abbey, will be lighted for the convenience of the public. It is proposed to do so by means of plain standards with electric light, so as to avoid any injury to the ancient walls and vaulted roof. The greatest care is being taken not to make any alterations which might interfere with the architecture.

A Committee has been formed in Russia to commemorate the siege of Sebastopol by founding a museum containing statues of the chief defenders.

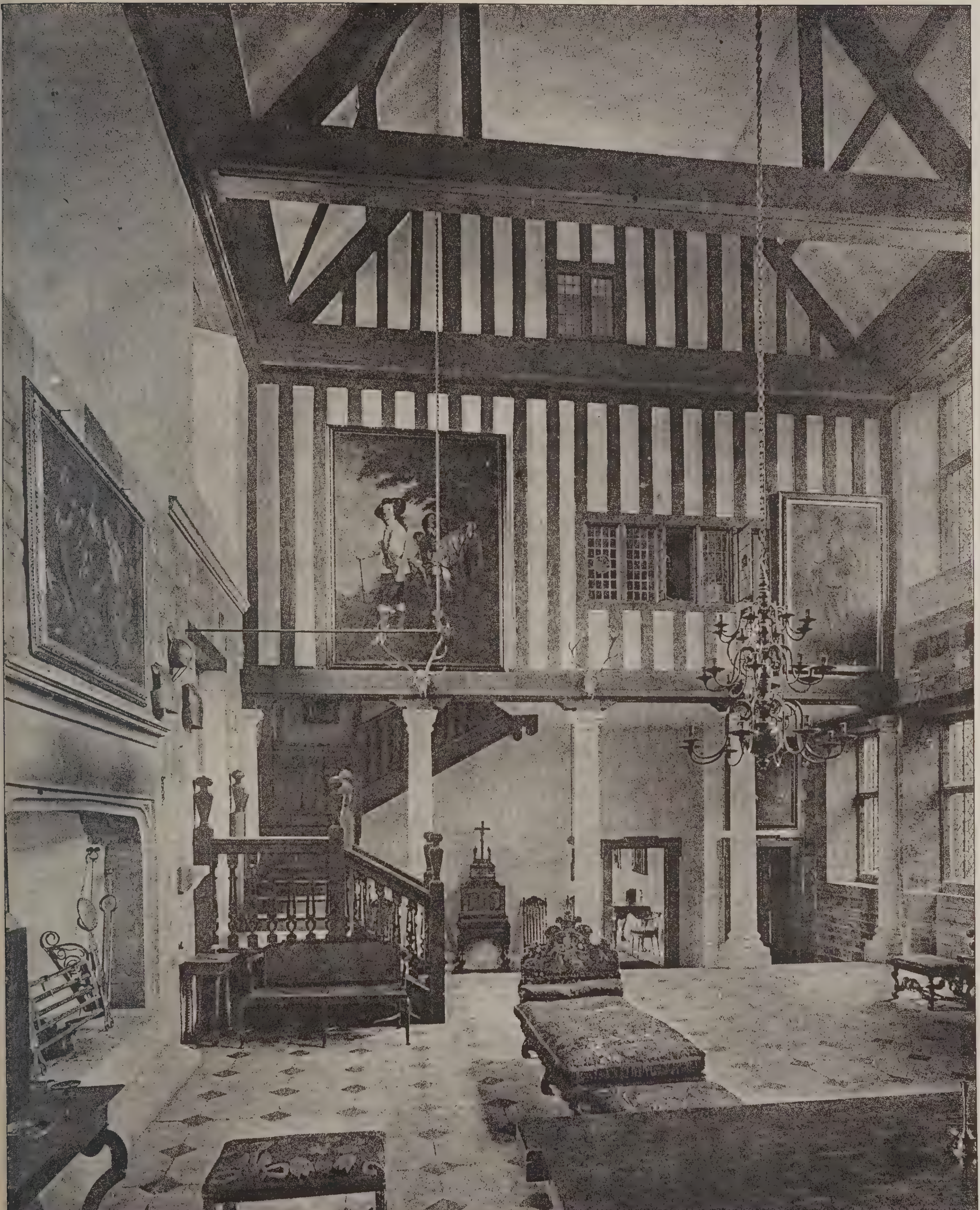
The New York Masons' Union ordered last week a strike owing to a refusal on the part of builders to reconsider their determination to compel the men to work ten hours a day instead of eight. The masons have taken out with them their assistants, and practically all bricklaying work in the city has ceased.

A Competition, confined to German architects, is to take place for a new theatre in Dresden, in which the utmost safety against fire is to be provided. The building is to be very plain on the exterior. It will stand near the Orangery, of which Semper was the architect.

The Greek Government has authorised the English Institute of Archæology to carry out excavations in Lakonia. Two members of the Institute will make extensive researches in the district.

The Southern Front of the new Victoria and Albert Museum will be devoted to purposes of exhibition, as originally proposed.

Mr. T. G. Marsh will read a paper before the Society of Architects, on Friday next, upon "Domestic Fires and Their Relation to the Smoke Nuisance."



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THE "TREASURER'S HOUSE," YORK: ENTRANCE HALL.

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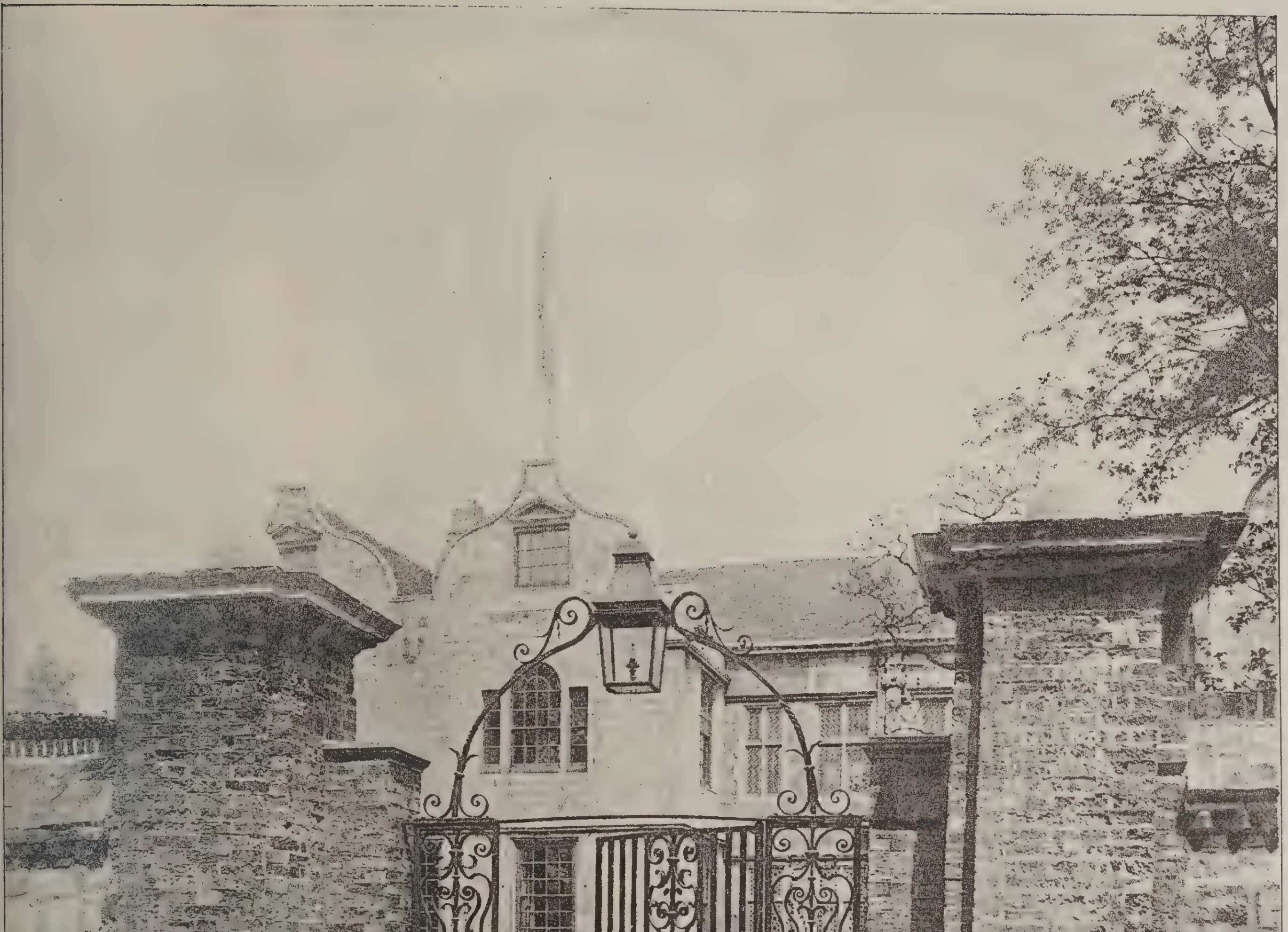

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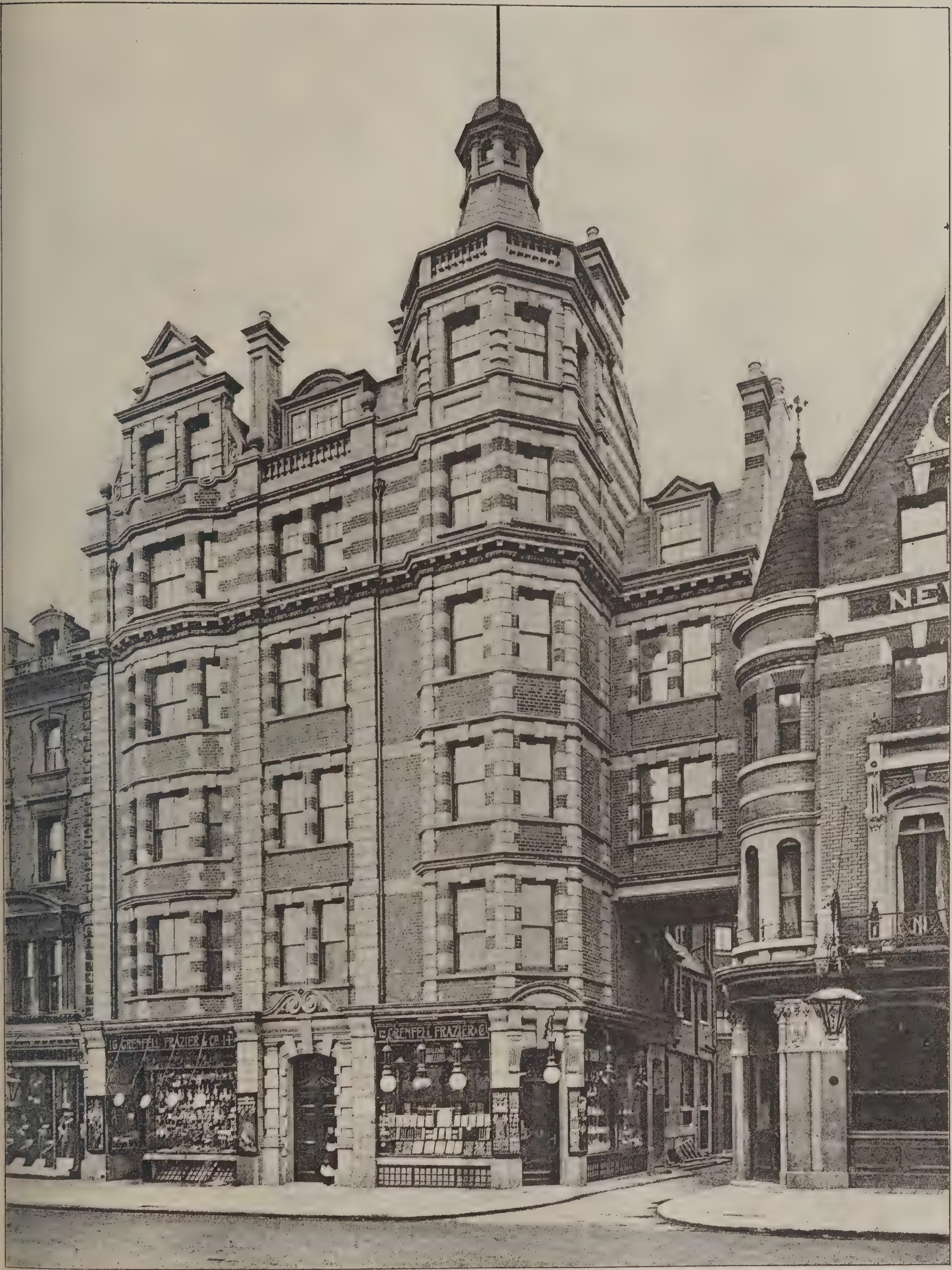

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NEW HEAD-QUARTERS FOR THE CHURCH ARMY, EDGWARE ROAD, W.

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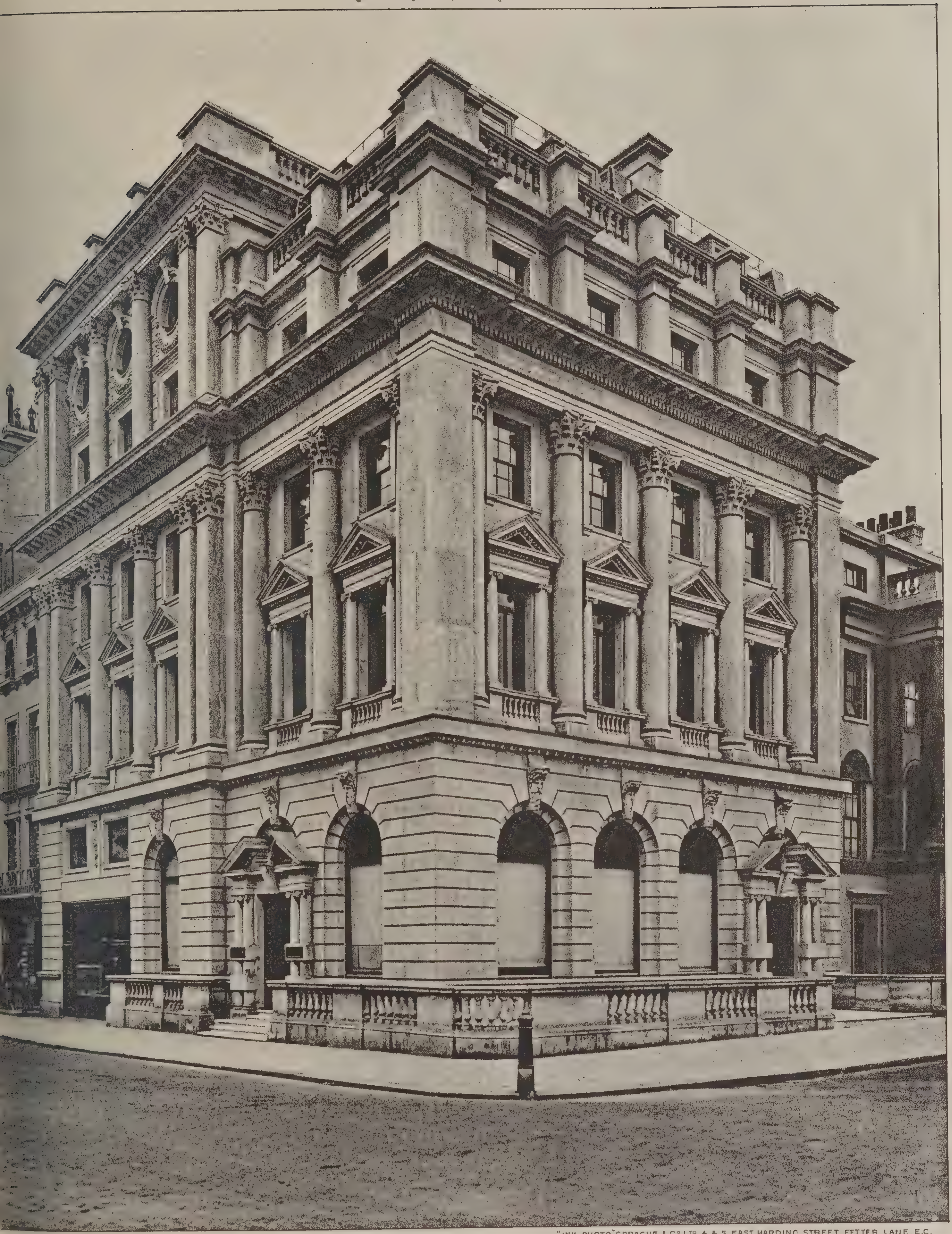

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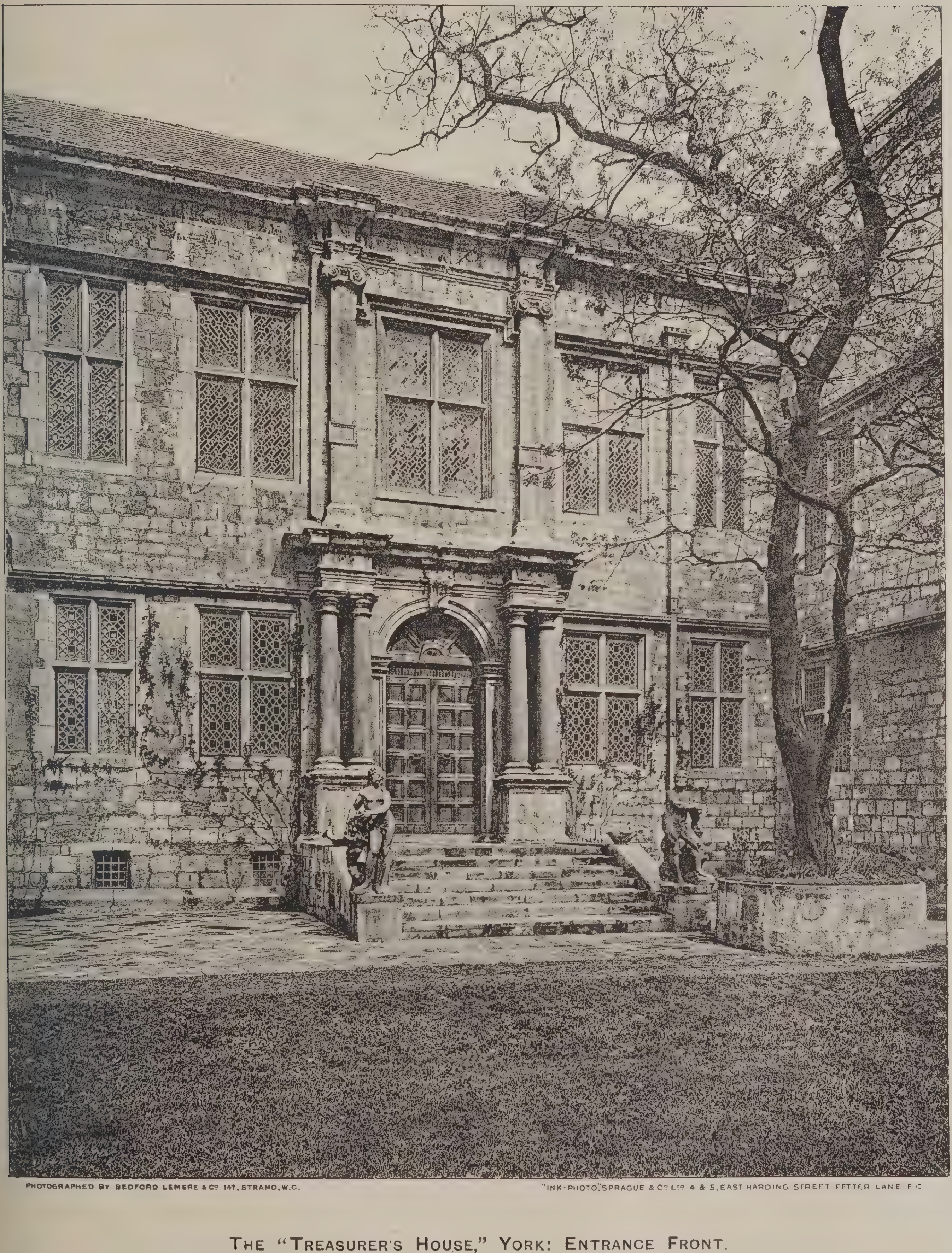

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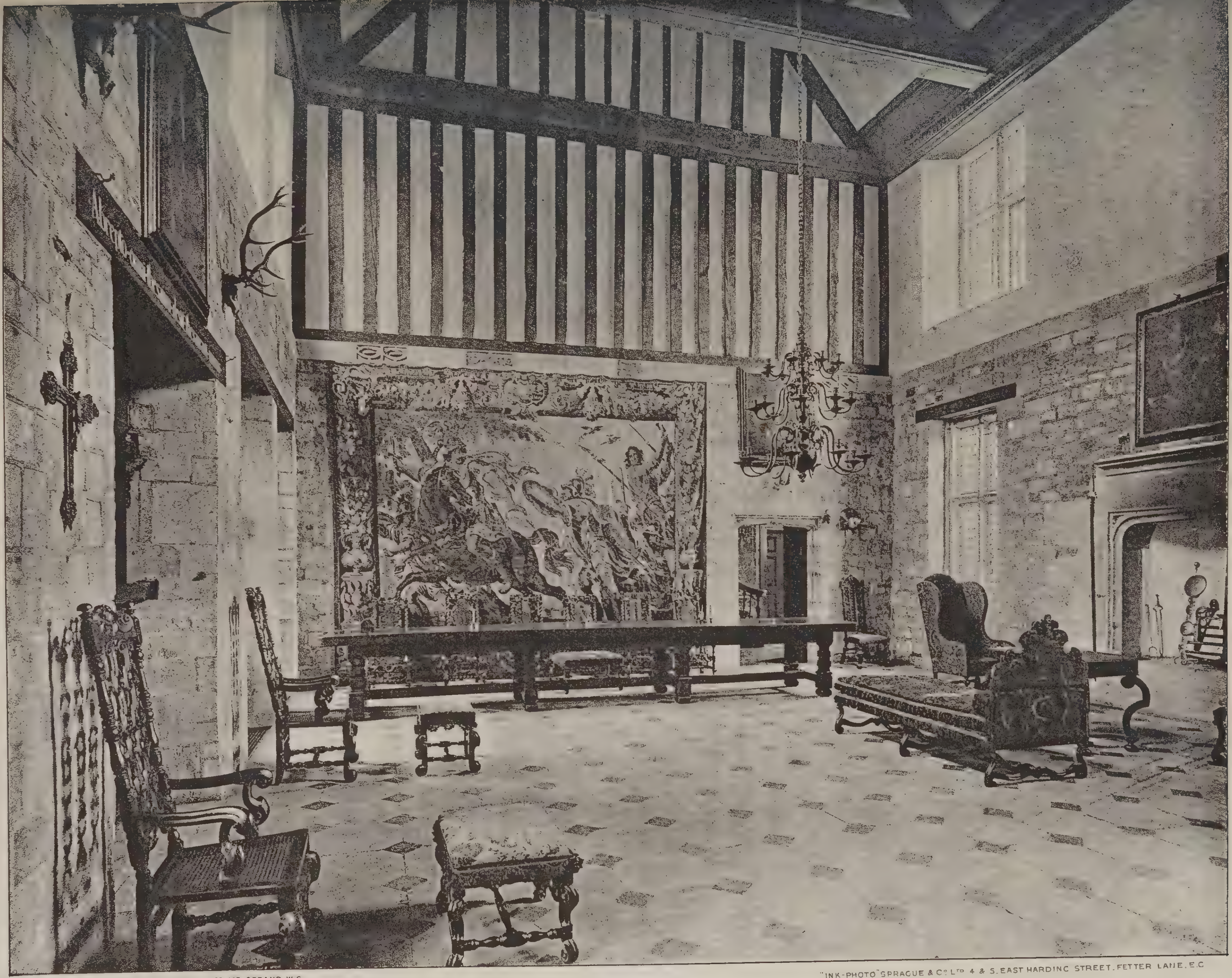

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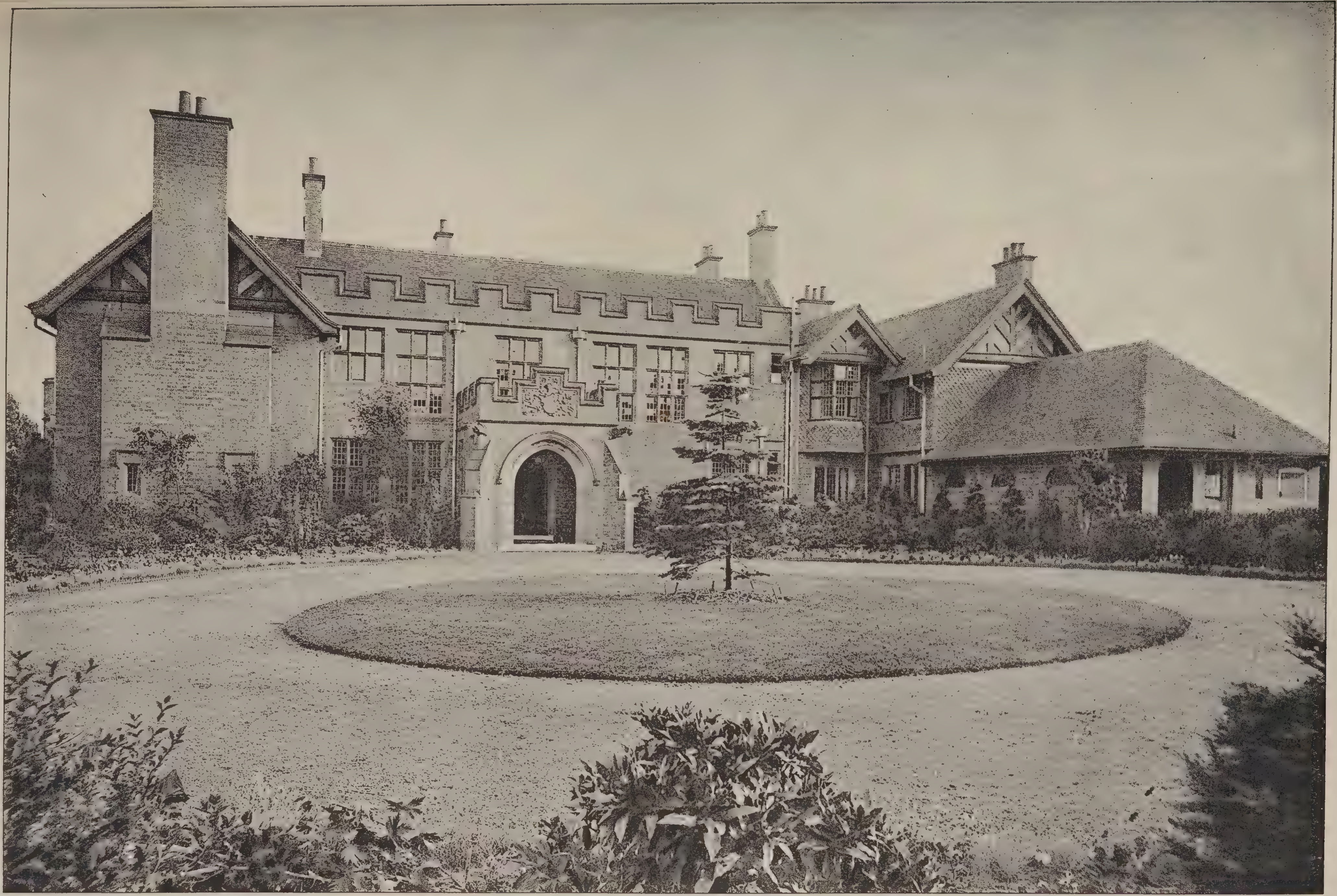

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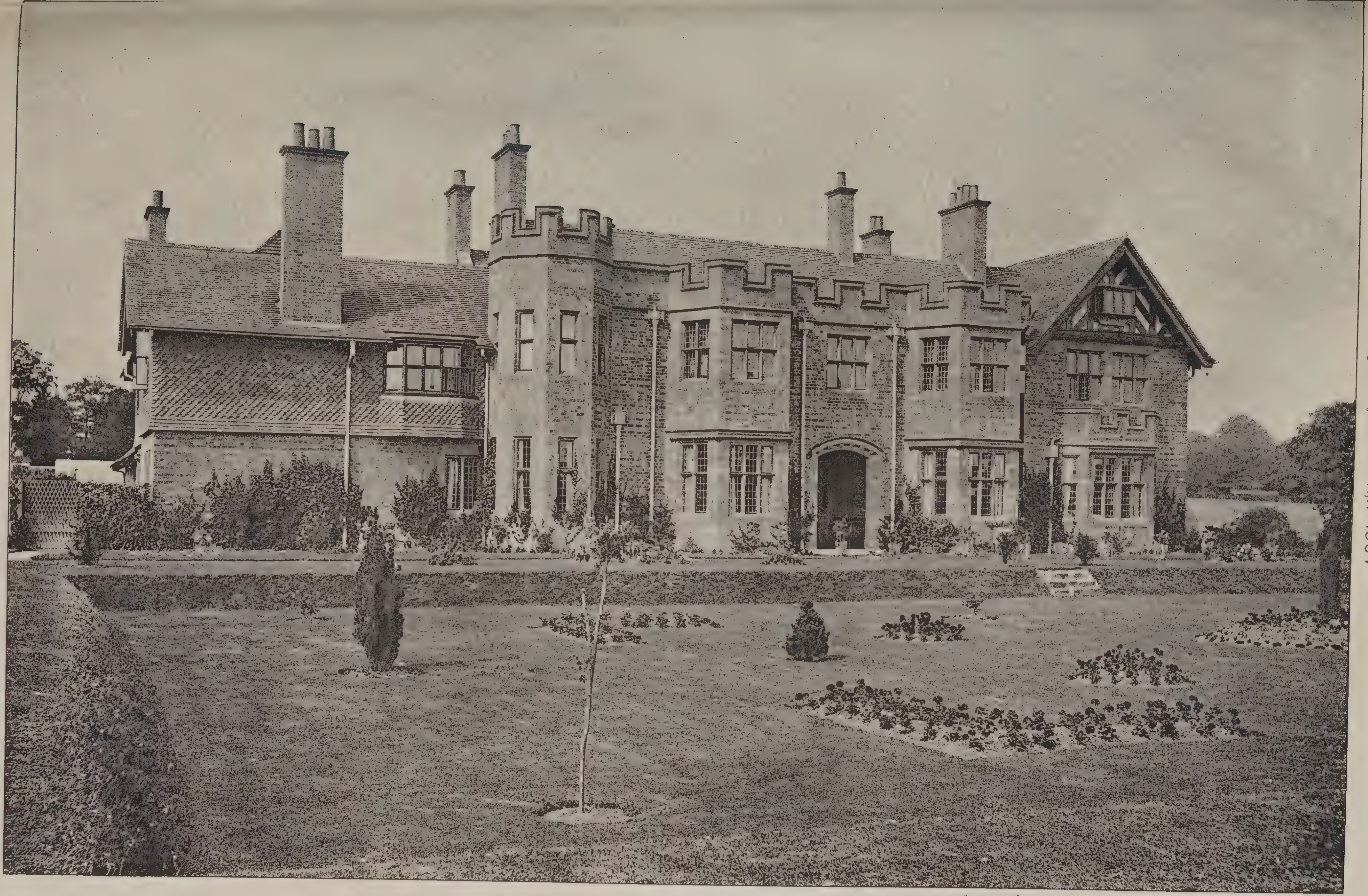

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The Architect.

THE WEEK.

THE Glasgow Institute of Architects have acted becomngly in testifying their appreciation of the half century of professional life of Mr. JOHN HONEYMAN. He not only aided the Society by holding office, but he has also erved the city on all occasions in which an architect could be of use. During the greater part of his career, Mr. HONEYMAN has been prominent in Glasgow. But it cannot be said of him that he departed one jot from the trictest rule of professional practice in order to gain disinction or other advantages for himself. There could be no better testimony to his conduct than the desire of local rchitects in disputed cases to have the advantage of his upport. By a happy coincidence it was announced on the morning when the dinner was held that the Senate of the Glasgow University had conferred on him the distinction of LL.D. Mr. HONEYMAN is already a Royal Scottish Academician, and all who know him will hope that he may long be able to enjoy such honours. The remarks of Mr. HONEYMAN after the dinner will uggest the difference between past and present. When he joined the ranks of architects the duties which he would be called on to perform seemed to be ndefinite. The only course open was to go through an pprenticeship, and then to trust to fortune. The obstacles were numerous, and it was difficult to escape falling into rrors. But the imperfection of the procedure was not ltogether disadvantageous. Self reliance was encouraged, nd such efforts as Mr. HONEYMAN made to become cquainted with all the details of a vast building like the Houses of Parliament had therefore to be attempted. Gothic which was then in favour was in a by no means matured state, but this exercised the reasoning powers in rder to discriminate between what was consistent in the tyle and what was factitious. The facilities now offered by Glasgow for the education of architects are very different from hose open to Mr. HONEYMAN's early contemporaries ; and t is to be hoped the students of our time will fifty years ence be able to point to executed works which will sustain omparison with work by men like Mr. BURNET, Mr. LOCHEAD, Mr. THOMSON and Mr. HONEYMAN.

AN unusual case under the Workmen's Compensation Act has been heard at Nottingham by Mr. Justice WILLS. Mr. EVANS, a builder, who was the plaintiff, in 1901 btained a contract for the erection of a workhouse. He made a sub-contract with a Mr. COOK for the plastering, nd it was agreed between them that for all claims in espect of accident or injury to any of COOK's workmen laintiff should be indemnified. COOK next entered into n agreement with the Lancashire and Yorkshire Insurance Company to be indemnified for any sums he paid to the laintiff. A workman was injured and he received 07*l.* 2*s.* 9*d.* compensation, or at the rate of 15*s.* 9*d.* per eek. Plaintiff claimed repayment from COOK and the nsurance company. Both denied liability. COOK pleaded hat he had entered into a policy with the company. The ompany stated that it was set out in the policy that no ettlement should be made of a claim without heir authority. Both defendants agreed that they ere released from liability because the plaintiff had onsented to the arrangement without consulting hem. Mr. Justice WILLS said that one of the objects f the Act was to avoid expensive litigation. The laintiff, as principal contractor, was liable to a workman ho sustained injuries while the contract was being arried out. If the agreement was unreasonable, the efendants could find a remedy, but so long as it was a easonable one the two defendants were liable for the ompensation that was actually paid to the workman The hird party was ordered to pay costs both to plaintiff and to COOK. A stay of execution was applied for, but his lordhip declined to accede to it. It might be supposed that he insurance company would have much to say if an appeal ere allowed. But, according to Mr. Justice WILLS, all he provisions of the Act are suggestive of an intention to check litigation, and on that account an obstacle was raised to further proceedings. No doubt the plaintiff was well advised, but generally it is a risky proceeding for one party to a settlement to act independently, and without consulting those who have even a greater interest in its success.

SEVERAL years have elapsed since Mr. ERSKINE NICOL'S pictures were seen in Academy exhibitions. It may be difficult for some of the younger visitors to understand why his death should be considered as a loss to art. As he was born in Leith in 1825 he had approached his eightieth year, but for nearly twenty years he preferred to live as a retired Associate of the Academy. He was a typical Scotsman, and it was through failure to gain success in Edinburgh that he emigrated to Dublin in order to become a teacher. He could feel little sympathy with the Irish peasants, and his first paintings might be called coloured caricatures on canvas. But at the time the stage Irishman was an amusing figure, and he seemed to reappear in Mr. NICOL's oil-paintings. Publishers were glad to bring out engravings after his works, and when coloured they were found to be as laughable as the originals. If compared with the Scottish scenes by WILKIE the difference was marvellous But WILKIE respected his humble countrymen, while Mr. NICOL endeavoured to render his Irishmen mirth provoking. There was plenty of skill shown in his pictures, and the incidents were always clear to a spectator. Regret was often expressed that so much talent was not devoted to a higher class of work. It is possible, however, that if better inspired Mr. NICOL might be less successful. He was one of the few surviving students of the Trustees Academy in Edinburgh who could claim to be taught by Sir WILLIAM ALLAN and THOMAS DUNCAN. He became a member of the Royal Scottish Academy in 1859, and nine years afterwards an Associate of the Royal Academy. He died on Wednesday in last week at Feltham, in Middlesex, and was buried at Rottingdean, near Brighton.

CAN a municipal corporation, which has taken over the duty of supplying water to the area within the incorporation, charge different districts within that area different rates for the supply of water? This was the question raised by the case of the Mayor, Aldermen and Burgesses of Northampton *v.* ELLEN. The answer given by the Court of Appeal (reversing BIGHAM, J.) was that they could, since there was no express provision in any of the Acts affecting the matter which disabled them from pursuing this course. It will no doubt seem anomalous that any local authority should have this power over any rate. The reasons why different parts of the district in this case were unequally rated were quite adequate, and, in fact, in the long run made for equality in rating. But it is not difficult to see that such a power unwisely exercised might be dangerous. It is true, as the Court of Appeal pointed out, that there is a difference between a water rate and a poor rate. In the case of a poor rate no such inequality in rating is legal. A poor rate "is an imposition upon citizens of a duty to the community in proportion to their means, and the character of the duty necessarily involves equality in rating" On the other hand, a water rate is the price of the supply of a commodity which may cost more to supply to one district than to another. This is no doubt a real distinction ; but it should be noticed that it was not the reason assigned for the differential rate in this case. In fact, the decision leaves it open to a local authority, situated as this Corporation was situated, to make a differential rate for what reasons it sees fit. It might perhaps be argued that, though no doubt there is a real distinction between a poor rate and a water rate, both concern the fulfilment of a duty, the performance of which is necessary to the community, and that both are on this ground thought fit to be entrusted to a local authority. The arguments, it might be said, which would justify a local authority in undertaking the supply of water would also lead us to require equality in the water rate imposed. These considerations cannot, of course, be taken into account by a law court, which must simply decide the matter upon the construction of the statutes relating thereto ; but they should be present to the mind of the Legislature when it passes statutes of this description.

NEGLIGENCE.

IT is not to be expected that when so much is said about the incompetency of architects what is called public opinion should remain unaffected. That peculiar influence, which is so powerful in a country like our own, is generally indeterminate in its origin. A notion will, let us say, be held by a number of people concerning a man's solvency, and as time goes on it extends and acquires strength. But how it originated may be impossible to ascertain. It becomes a sort of contagion and may do a vast amount of harm to the individual who is the subject of it, and he is in the unlucky position of being unable to discover anybody who can be made responsible for starting the rumour. An architect may deliver a speech or write a letter to a journal in favour, say, of registration. He is probably smarting at learning that some particular architect has been awarded a commission which he, the speaker, desired. He dwells upon shortcomings which are those of his rival. But other people, who cannot discern the particular instance, are apt to draw conclusions unfavourable to other architects or to the profession at large. In that way a prejudice is created which gradually becomes what is known as public opinion. A judge in one of the courts may have his mind so well disciplined as to be entirely indifferent to it. But we can hardly expect that a jury can be got together without one or more members having a bias which is more likely to trend against an architect than in his favour.

We have on many past occasions pointed out how often verdicts are now given against architects which at one time would be likely to be the reverse. In fact, it was long supposed to be only waste of time and money to bring an action against an architect for alleged negligence of his duties. His office was considered to be of so peculiar a nature, and being surrounded by a kind of halo by reason of its judicial jurisdiction, the rules which were applicable to ordinary individuals seemed of no account. An architect does not profess to exercise any extraordinary degree of skill on behalf of his client, and indeed it is sometimes difficult to define what is the extent of his services. Owing to the vagueness it was not unusual for lawyers to advise that it was better to suffer loss than to enter on an action to recover damages for negligence, of which the result might be the loss of more money than would be necessary to repair the damage. The present Lord GRIMTHORPE, when he was a practising barrister, arrived at the conclusion that the surest way to avoid trouble afterwards was for the building-owner to watch the progress of the work for which he would have to pay. "The only thing I can recommend," he says, "is that persons who want to have building done for them should take the trouble to learn something about it. No doubt you may have good work done honestly without your understanding it, unless two out of the three parties engaged are rogues; but the chances are a thousand to one against it being done as well where there is nobody on the spot who understands it as when there is somebody who does. Many a mistake is begun and passed incurably which might have been stopped by half a dozen lines to the architect from anybody who observed it in time. Many an effect cannot be judged of by the best architect from the most careful drawings, which it does not require any architect to judge of and condemn the moment it appears in stone. Moreover, the man who is constantly watching the progress of one building in which he is specially interested is sure (if he understands anything at all about it) to observe a multitude of small matters of detail which cannot be expected to rush all at once, or at the proper time, into the head of an architect who sees it for an hour or two in six months, and comes to look for anything rather than mistakes and omissions in his own plan."

The writer of the extract was no doubt thinking of somebody like himself who possessed more than the usual amateur's knowledge of building, and from having had the advantage of a scientific training would be disposed to make constant inquiries concerning the why and wherefore of everything he saw, and why things he considered essential were omitted. In reality such a man would be a bore and render life unpleasant to an architect. But in theory, at least, he would serve as a useful assistant. It is absurd to presume, as is too often done by the public, that by a payment of 5 per cent. on the outlay an architect is adequately rewarded for the devotion of all his hours to one building. Even if he were never absent it is not certain that perfection of execution would result. As work is now done it rarely happens that one clerk of works is sufficient. Workmen will be careless; and, indeed, it might almost be said that wherever men are engaged in scattered groups there an Argus-eyed overseer should be found. On buildings left entirely to the contractor, or which are a speculation of one, it will be observed that carelessness is not excluded, and omissions occur which are sometimes ridiculous, for it might be supposed that even a blind man might think of them. Some excuse is no doubt to be sought in the variety of objects and fragments constituting the simplest building, and which unless attended to in a most systematic manner may not all be found in their proper places. When omissions are discovered efforts are often made to conceal them, and thus it happens that expense has to be undergone to remedy oversights which may have appeared trivial. As the writer we have quoted says, many a mistake is begun and passed incurably which might have been stopped if a post-card were sent to the architect, or, it may be, to the contractor.

A case has just been concluded, after several days' trial at the Birmingham Assizes, which exemplifies the new condition of affairs. The action was brought by the Vicar and Churchwardens of Christchurch, Stone, against Mr. CHARLES LYNAM, of the firm of LYNAM, BECKETT & LYNAM, Stoke-on-Trent. From the statement of counsel, it appeared that in 1896 the church authorities decided to have the church rebuilt, and defendant was employed to prepare plans, specifications, &c. The original estimate was 3,000*l.*, but owing to the death of a lady who had promised 500*l.* only 2,500*l.* was available. A tender was accepted for the work, and plaintiffs alleged that, owing to the negligence of the defendant, the builder did not do his work properly, for rain fell from the roof and draughts were very common. Defendant was written to, but nothing was done to remedy the roof. At length the plaintiffs had to call in other architects, and it was found that the slates, or the tiles, were not of the quality specified, and that the boards of the roof were not properly seasoned and had shrunk. Another builder was employed and the plaintiffs sued for the amount they had to pay him to put the church right. Defendant, it was alleged, gave the builder in the first instance a certificate showing that the work was properly done. For the defendant it was pleaded that he was hampered by the endeavour to combine cheapness and efficiency. It was admitted that a beautiful church was obtained, and at the opening service satisfaction was expressed. A great amount of evidence was given as to the merits of felt for roofs, the plaintiffs seeking to show that the defendant had not followed the best system; while the defendant called a number of witnesses to show that the draughts were not caused in the way alleged by the plaintiffs, and that the system was a good one, and that all had been done which was possible with the means at disposal. The greatest skill and care could not always insure perfect immunity from draughts.

Our readers are aware that Mr. CHARLES LYNAM, the defendant, has for many years merited a reputation as an ecclesiastical architect. The papers read by him before archæological and other societies are sufficient to show how deeply he has studied the subject. A few years ago it would be taken for granted that such a man was unlikely to go through his duties perfunctorily when he was entrusted with the building of a church. If an action were brought against him it would be sure to be said that he had observed reasonable care and diligence, and what more was to be expected? It would also be asserted that in using a material like felt more than one way was allowable, and if disappointment occurred the architect ought not to be held blameable. But, as we have remarked, negligence is no longer considered in the old way, and an architect is expected to make arrangements which will result in producing a perfect building, or he must take the consequences.

The latter theory is suggested by a little scene which occurred during the trial. Mr. LAWRENCE, K.C., one of the counsel for the defendant, stated that there was a necessity for keeping down expenditure, and the case was like that of a tailor who had to cut his at according to his cloth. Mr. Justice RIDLEY held that in that case it was supposed there was a at, but the plaintiffs asserted that practically they had church because it was uninhabitable. Counsel replied was impossible to continue the defence if his lordship ld the jury the plaintiffs had not even got a church. His rdship's remark may not at first sight reveal all its importce. It suggests, however, that although to experts a fect in a roof may appear as isolated, and one which is pairable without entailing further injury to the building, t to a Judge the defect cannot be considered simply in self, but as a wound which, as it were, inflicts an injury the entire system of construction. This opens out a sta of consequential damages which architects and ilders cannot contemplate with satisfaction. The aintiffs claimed 311*l.* damages, and the jury found for 4*l.* 18*s.* The defendant obtained a verdict for unpaid es amounting to 103*l.* 11*s.*, but while the plaintiffs were lowed costs, the defendant is not to have any for his ccessful counter-claim.

The moral to be drawn from the action is that the bility of architects must henceforth be considered as ing no abstraction, but as possessing serious import for who undertake the preparing of plans and superintendg the erection of a building. It is no defence to say that, ving to the limited funds, an imperfect building could ly be provided. Judges and jurymen are more likely to ppose that the true cause of failure of any kind is incomtency or negligence. If there is an imperfect system for e training of architects, those who try cases in which chitects are involved will naturally believe they are ding the public in punishing those who have underken certain duties, although incompetent. The sucss which has followed some recent cases must give nfidence to building-owners with grievances, and creased care will therefore have to be taken in attending what is comprised in an architectural commission.

ANDREA AND JACOPO SANSOVINO.

THE calendar was very soon utilised by the Church to recall the names of saints. AUGUSTE COMTE itated early Christians and prepared a Positivist calendar which not only the days were made commemorative great men, but the months were named after MOSES, OMER, ARISTOTLE, ARCHIMEDES, &c. There are a great any artists whose names are not to be found in any list the kind, but whose lives are often recalled by circumances which may appear to be accidental. At the esent time, for instance, fire-resisting construction is ought before the mind of ordinary people who read ewspapers. With work of that kind the name of JACOPO ANSOVINO should be associated. If we are to believe ASARI, he was the first architect to adopt precautions gainst fire. He constructed the Zecca, or Mint, of Venice tirely of stone and iron, without a particle of wood, in order at it might be secure against the danger of fire. It is so ommodiously arranged within, continues the biographer, r the convenience of the numerous labourers employed, ere is not in the whole world a treasury so strong or well planned as that of Venice. It may be objected at a similar method of construction was likely to have een practised at an earlier time. But we should remember at VASARI was an architect, and acquainted with the istory of his art in Italy. There may have been no eliberate attempt to provide such a building prior to e planning of the Zecca, although probably little difference existed between the materials employed on the quay Venice and those used in other places. SANSOVINO is rther recalled by the destruction of his loggia erected at e basement of the Campanile. That work was perhaps iginally intended to add security to the lofty structure. e might add that the view we lately published of a building Pall Mall is also suggestive of his ability, for on the plate e see a part of the club-house which to a great extent a reproduction of the library in Venice, which, according VASARI, revolutionised architecture, and caused the old yle to be abandoned.

JACOPO was an example of a fashion prevalent in Italy men becoming indifferent to their family name in order to adopt that of the artist who taught them or who favoured them. By birth he belonged to the TATTI who had emigrated from Lucca and settled in Florence. His father's house was in the Via Santa Maria, and there he was born. In the same street there lived LODOVICO DI LIONARDO BUONARROTI SIMONI, the father of MICHEL ANGELO, who came into the world in 1474, while JACOPO TATTI did not appear until three years afterwards. JACOPO was not a brilliant youth at school, but his mother was anxious that he should resemble the young BUONARROTI, and accordingly he was taught drawing. Soon afterwards, when ANDREA CONTUCCI, the sculptor and architect, came to Florence, he was able to discern the lad's ability, and accepted him as a pupil. The two became attached, and as the older artist was called SANSOVINO from his birthplace, that name was adopted by TATTI. In the portrait of him by TINTORETTO the two names are inscribed on the background, IACHOPO TATTI SANSOVINO.

ANDREA CONTUCCI was well adapted to inspire and train a pupil. His youth resembled that of GIOTTO. He was very poor, and was employed to mind cattle. He used to amuse himself by making figures in clay or representing them by lines in sand. He was discovered not by a CIMABUE, but by a Podesta, who was so much struck with the boy's talent, he placed him with an artist so that he might be instructed. He began as a sculptor. Then, from making capitals, columns and other architectural details, he began to design buildings. But he continued to study ancient examples. When he designed an ante-room for the sacristy of the Santo Spirito in Florence he set up twelve Corinthian columns at the sides. The ceiling was in coffers decorated with carving. It was objected that the divisions bore no relation to the lines of the columns. He defended his arrangement by the example of the Pantheon in Rome, where the coffers of the dome are arranged independently of the piers and recesses of the lower part. This shows that he was familiar with Roman architecture. He designed various works, and his reputation was so general that the King of PORTUGAL invited him to design a palace and other buildings. One of the decorations represented a battle with the Moors, of which VASARI speaks with admiration. After nine years he returned to Florence, and there received commissions for sculpture. JULIUS II. sent for him in order that he might execute some tombs. LEO X. gave him a commission for completing the incrustation of the church of Santa Maria di Loretto, which had been commenced by BRAMANTE. VASARI was so much an admirer of the work of the two artists, he said if it had been formed of Oriental jewels its value would be inferior to what it was as a work of art. While engaged in encasing the Santa Casa ANDREA took part in the fortifying of Loretto. He allowed himself a holiday every summer. Then he went to his native place, Monte Savino, and engaged in agriculture. Apparently he always remembered his origin. He seems to have bestowed much attention on applications of geometry. The science enabled him on one occasion to make a cloister which had to be built on foundations which were not square appear as if it were regular. He increased the thickness of the piers supporting the angles in such a way that the effect produced was that of a building with right angles. Feats of the kind were then much admired, and Renaissance artists went out of their way so as to grapple with them. He died in his sixty-eighth year, through contracting a chill while superintending the removal of piles at his country house. VASARI describes him as a small man, with long soft hair, an aquiline nose and a fair complexion. He suffered from an impediment in his speech, but that did not prevent him from being an able conversationalist and instructing his numerous pupils.

ANDREA was seventeen years older than his pupil JACOPO. The master seems to have felt proud of a pupil who, according to the opinion of the time, was destined to surpass him in ability. JACOPO was not long before he was able to prove his powers. He became a friend of the unlucky ANDREA DEL SARTO, and used to make models in clay or terra-cotta for ANDREA's pictures. He was brought to Rome by SAN GALLO, but BRAMANTE appears to have asserted a prior claim on his services. He had, therefore, two patrons, and when SAN GALLO fell ill, JACOPO went to live with BRAMANTE. Painters had recourse to him for the preparation of models in wax or clay for their pictures, and one now in the South Kensington Museum is believed to have been executed for Pietro Perugino. Julius II. entrusted him with the restoration of some antique statues.

Rome disagreed with him, and he was obliged to return to his native Florence. Although he had to contend with rivals, he was able to obtain commissions. Vasari's enthusiasm for Michel Angelo was not without an effect on his criticism of other sculptors. He admits, however, the success with which Sansovino treated draperies. He says they were rendered with so much delicacy that the texture of the material was expressed. But the artist did not confine himself to draped figures. He executed a figure of Venus in a shell and a nude Bacchus, for which an assistant served so long as model that his mind was deranged, was deemed the best of modern works. It is now in the Florence Museum and upholds all that Vasari attests as to its excellence.

His earliest architectural efforts apparently were triumphal arches erected when Leo X. visited Florence. Andrea del Sarto co-operated with him, and thus sculpture and painting were united with architecture. The Pope, it is stated, was struck by the beauty of the arch erected at S. Maria del Fiore. The success of Sansovino is manifest by the fact that Michel Angelo looked on him as a rival, and would not allow his participation with him in the completion of the façade of San Lorenzo. In a competition for a church in Rome his competitors were Raphael, San Gallo and Baldazzare di Siena. His design was preferred, but the works were never completed.

After the sacking of Rome in 1527, Sansovino took refuge in Venice, a city with which his name will always be associated. His style both as a sculptor and an architect was well adapted for combination with the works of the painters who were then bringing renown on Venice. The reputation of Sansovino must have been widespread, for on his arrival in the city he was entrusted with the restoration of the domes of St. Mark's. He was so successful, he obtained the highest office available for an architect, and a residence was given to him as well as a salary. He immediately set about the improvement of the Piazza, and resolutely removed a number of temporary buildings which had brought discredit on the city. His first important commission for a new building was for a library, which has been reproduced in Pall Mall without the statues and obelisks surmounting it. Fergusson objects to it on account of the profuseness of the sculptured decoration, which is not necessarily part of the construction, and is not all conventional. Palladio declared it was the richest and most ornamental building constructed since the times of the ancients. Aretino considered it was beyond criticism. Unfortunately one of the vaults collapsed and Sansovino was arrested, deprived of his office, fined a thousand ducats and cast into gaol. Through the exertions of Titian he was released, and nearly all the fine remitted. It is evident there was foul play, for his accusers were imprisoned. Afterwards Sansovino's career continued to be prosperous. It is not necessary to recount all the buildings he erected. Several of the palaces were designed by him, the Misericordia, the loggia of the Campanile, the Zecca, the church of Santo Spirito. Among his sculpture are some of the figures in St. Mark's, the bronze door of the sacristy, in which his own portrait appears, as well as those of Titian and Aretino; the *Neptune* and *Mars*, which seem to guard the great staircase of the palace. No work was undertaken in Venice or elsewhere by the Procuratori without his advice; and it is mentioned by Vasari as if it were an honour that they employed him for their friends and themselves without paying him for his services. Hard as he worked, and although he was delicate in his youth, he lived until his ninety-third year. His love of art was disinterested, for he trained and supported so many assistants he might be regarded as a founder of a school of art. As a sculptor Vasari has to admit that for draperies, children and the expression imparted to his figures of women he was superior to Michel Angelo.

Jacopo Tatti was one of the truest representatives of the Renaissance. The great movement was approaching a period of decline, and in the production of works means unknown to the earlier masters were adopted. Jacopo
employed assistants, but there was no question that he wa
competent to execute his architectural designs and hi
sculpture with his own hands. A stranger to Venice, h
was treated as if he were a native, and under the officia
and private patronage his nature seemed to expand. I
Florence he would have been restricted, and perhaps woul
have displayed a severer spirit in his works. He was not
great thinker like Michel Angelo, for he sought to pleas
many rather than a few select spirits, and there is no doub
he succeeded. His statues, busts and reliefs can stil
afford pleasure to all who see them, and the efforts whic
have been made by the Berlin authorities to secure man
examples are proofs of worldly wisdom deserving of imitatio
in other places.

FIRE AND EXPLOSION RISKS.*

THERE arose an outcry when Charles Dickens i
"Bleak House" introduced spontaneous combus
tion. At the time he was somewhat of a symbolist. H
therefore created a rag and bone merchant, known i
Chancery Lane as the Lord Chancellor, and who was sup
posed to claim affinity with the high dignitary of the sam
title. He used to say, we are told, "There's no great odd
between my noble and learned brother and myself; the
call me Lord Chancellor and my shop Chancery, and w
both of us grub out in a muddle." The dingy warehous
and its owner vanished in smoke, and this prefigured th
end of the celebrated case Jarndyce *v.* Jarndyce in the Hig
Court of Chancery. It was considered to be bad taste t
introduce such an incident, and some amateurs in scienc
contended that spontaneous combustion was an impossibilit
Fifty years have made a vast difference in our knowledg
of the subject, for it might be said that our most importan
discoveries in chemistry during the period are connecte
with explosives and combustible compounds. Not only a
aids in war, but as materials for objects required every da
substances which are more dangerous than gunpowder a
now in use.

Their storage becomes important. Municipal regula
tions have to be enforced in relation to such dangerou
businesses as are described in the London Building Ac
viz. "the manufacture of matches, ignitable by friction o
otherwise, or of other substances liable to sudden explosio
inflammation or ignition, or of turpentine, naphtha, varnis
tar, resin or Brunswick black, and any other manufactu
dangerous on account of the liability of the material
substances employed therein to cause sudden fire
explosion." There are, however, materials and substanc
constituting elements of danger, although it may not b
necessary to keep them 40 feet apart from a public road
50 feet from another building. Their explosive power ma
sometimes lead to fires and the destruction of building
At the present time people are disposed to concentra
their attention on the construction rather than on th
contents of warehouses, and precautions are adopted in th
arrangement of the buildings which are doomed to be usele
unless more care is taken in dealing with explosive su
stances.

What Dr. Von Schwartz, of Constance, has unde
taken is to treat of the degree of fire risk, the possibili
and means of prevention, incendiarism and the causes
fires, as well as to extend the general knowledge of the fi
risk of chemico-technical substances and processes witho
requiring any previous acquaintance with the subject fro
the reader. His book is divided into eleven parts. Th
first treats of fires and explosions generally, then follo
others relating to the dangers arising from sources of lig
and heat, gases, establishment of works—such as dru
stores, laboratories, refuse destructors, &c.; industri
materials, agricultural products, fats, oils, resins and waxe
mineral oils, &c.; alcohols, ethers, &c.; metals, oxides, an
finally lighting, lighting materials, &c. As an example
the fulness with which the different items are treated w
take the following extract relating to sawdust:—

Sawdust from young or sappy wood (30 to 45 per cent.

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* *Fire and Explosion Risks.* A Handbook dealing with t
Detection, Investigation and Prevention of Dangers arising from Fir
and Explosions of Chemico-Technical Substances and Establishment
By Dr. Von Schwartz. Translated by Charles T. C. Salter. (Londo
Charles Griffin & Co., Ltd.)

moisture) is more liable to take fire of its own accord than that from older wood containing only 12 to 18 per cent. of water. Owing to the difficulty of estimating the percentage of water in sawdust or wood-wool macroscopically, it is advisable to lay down the following precautions for all cases where sawdust is stored in bulk, or wood-wool in a tightly packed condition. The heaps must not be more than 7 feet high, nor may the materials be placed in contact with any wooden pillars, unless the latter have been impregnated in a thoroughly flameproof manner, or protected by impregnated boarding. When used as litter, particular attention must be bestowed on the manure; that from sawdust litter must not be stored too long or in high heaps, or it will be deeply decomposed with liberation of phosphuretted hydrogen. Strong nitric acid must not be allowed to gain access to either sawdust or wood-wool, as even damp sawdust may be impregnated by this acid. When incorporated with resinous materials in the manufacture of firelighters, sawdust may be induced to take fire spontaneously if stored in large heaps; hence the lighters must be stored loosely without any pressure, especially whilst still hot when first made. In admixture with blood, meal, glue and gelatine, sawdust is converted into artificial wood by strong pressure; the temperatures employed in this operation may easily lead to spontaneous ignition, being 340 degrees to 390 degrees Fahr. An artificial wood, xyolith, is composed of intimately mixed wood fibre and mineral adjuncts; it is uninflammable, incombustible, and can be used whenever fire is employed and stone or metal is unsuitable, *e.g.* for laboratory benches, chemists' shops, varnish works, drying frames, drying chambers, &c. The very fine dust given off by wood when worked in lathes or other machines will explode on contact with any flame or spark, and thus cause great damage, especially when inflammable gases like coal gas are present. The originating cause of the dust is immaterial, every kind of wood furnishing explosive dust, even decayed wood that crumbles down into a state of fine powder. In fact, decayed wood in general is a source of no little danger. For instance, should a decayed beam become incapable of further supporting its load and collapse, the fine dust thus disseminated through the air of a room will ignite in contact with any light or fire present, and give rise to a violent explosion. It is rare that such ignition is produced by glowing bodies (cigars, pipes, ashes, slag), flame being necessary.

It will be evident from the extract that Dr. Von Schwartz possesses an ample knowledge of the subject in all its relations, and he is able to bring together a mass of evidence which appears to be overwhelming. In constructing buildings he draws a distinction between fireproof and flameproof. The former should be, he holds, not only incombustible, *i.e.* having chemical stability, but physical stability also. As there exist very few materials like asbestos, magnesite and alumina, containing those qualities, he relies on other properties such as bad conduction of heat and proof against flame as adequate. His table of the relative conductivity of heat is as follows:—

Cement plaster	100
Ordinary plaster, stucco	112
Oak timber	168
Asphalte	225
Brick	330
Slate	500
Cast-iron	5,000

The figures of the table vary from those in general use, but they may be taken as a safe basis. Organic substances are generally combustible, although wood, and especially oak, stands well, but it is impossible to treat timber in such a way as to render it flameproof. Iron may appear risky unless covered with cement or stucco. It is unwise, however, to devote attention to the structure at once. Dr. Von Schwartz advises that goods or products kept in store, if they are of a kind that is liable to combustion, should be inspected at least once a week. Care should also be exercised to avoid indiscriminate packing of different classes of goods. Nor does he look on water as an infallible means of extinguishing fires. "In some fires," he remarks, "the employment of water may be very dangerous, and its use should be prohibited under all circumstances where (1) it may favour the progress of chemical reaction, (2) it assists the spreading of burning substances, and (3) it may effect the liberation of dust."

There was no book in England corresponding with Dr. Von Schwartz's. It is, therefore, a valuable addition to technical literature and should be attentively studied not merely by those who have to build warehouses, but by merchants and manufacturers. It is gradually becoming recognised that the majority of goods have properties which may produce combustion, but too often it is supposed that when fires break out they are to be ascribed to another cause. Many fires would be prevented if the general tendency of numerous manufactured products were understood. A knowledge of Dr. Von Schwartz's book can hardly fail to diminish the number of fires wherever goods are stored, and in that way an unnecessary loss of money will be avoided.

MR. J. HONEYMAN, LL.D., R.S.A.

The Glasgow Institute of Architects gave a complimentary dinner on the 10th inst to Mr. John Honeyman, R.S.A. It was limited to members and a few guests.

Mr. Horatio K. Bromhead, F.R.I.B.A., the president, in proposing Mr Honeyman's health, said never had honour been more deserved by any Glasgow architect, and they had great pleasure in thus conveying to him their congratulations on his coming jubilee of fifty years' practice on his own account in Glasgow. Mr. Honeyman commenced for himself in 1854, and he (the President) could testify to the great kindness which he personally received from him. It would be pleasant to refer to Mr. Honeyman's numerous works, but he would only touch lightly upon one or two. No one could look upon Brechin Cathedral without being impressed with the combination of profound knowledge and exquisite care and judgment displayed in its restoration, and every student delighted in the beauties of Skipness Castle, each detail of which showed that it had been supervised by one who knew and revelled in the loveliness of Scottish baronial architecture. These two examples were characteristic of the common sense which marked all his work. Avoiding the temptation of endeavouring to be too original, he at the same time never went to the other extreme of dull monotony and of slavishly copying existing works. The President further mentioned that Mr. Honeyman was prominent in connection with the formation of the Archæological Society; he was elected in 1876 a member of the Council of the Royal Institute of British Architects, and was re-elected in 1878 and 1884. He was one of the original members of the Glasgow Institute of Architects, and held the office of a member of Council in 1869 and 1870, and from 1874 to 1883. He was vice-president from 1876 to 1878, and president in 1881 and 1882. In 1889 he retired from the Glasgow Institute, and in 1900 was elected an honorary member

Mr. Campbell Douglas and Mr. Keppie also spoke to the toast.

Mr. Honeyman, having expressed his thanks to the members of the Institute for the honour they had done him, and for their very cordial reception, went on to say:—On such an occasion as this it may perhaps be expected that I should say something about things connected with our profession during the course of my long practice, but lest I should be tedious to you, I propose referring only to the first decade of my experience, at a time when many who now surround this table and hold a prominent position in the profession were not born. The antiquity of such incidents may give them some interest, and they may also be in some measure instructive, but I fear they must necessarily be to some extent egotistical. You must, however, overlook that, as it cannot be helped if I am to speak about myself at all. I had been nearly a year in a merchant's office—copying letters, backing letters, vouchers, &c., and other usual work of a beginner—when I became discontented, as I did not see where this sort of thing was to end, when a friend suggested that I might learn to be an architect. I said, "What is an architect?" I had not at the time the remotest idea, and I had only once seen one, when the late Mr. Wm Spence visited my father's coast house to arrange about the erection of stable offices; but I was only a schoolboy then. My friend explained generally what an architect did, and said that the first thing I would have to do would be to learn to draw plans, and that I would get no salary for four or five years, and said he knew an architect who would teach me if I liked to try it. As my father had no objection I went with my friend and was introduced to Mr. Alex. Munro, whose whole staff at the time consisted of one office-boy. As I knew nothing about mechanical drawing, I was first set to do a few simple exercises and then to copy the orders. Then followed making copies of the plans and elevations of Castle Howard, Carstairs House, and the Poorhouse in Parliamentary Road, by which time I had learned the use of my tools pretty well, had begun to do some of the ordinary office work, and had quite made up my mind to stick to the profession. A point which I think worthy of notice here is that, although after I commenced business on my own account I never designed a tenement of small houses, during my apprenticeship I had nothing else to draw, except two or three small villas, one of which I may mention was the first villa erected at Lenzie, and another the second villa at Pollokshields. Strange as it may seem, I have always regarded this absence of what may be called first-class work from my master's office as distinctly advantageous. My attention was thus concentrated on the practical work of an architect's office. I soon understood what to do, and was associated with my master both in designing and superintending the work. I had to seek artistic inspiration somewhere else, and made a feeble attempt to get into a London office as an improver, but failed, as I have never been a good hand at getting anything which could only be got by solicitation. I remained in London, however, about six months, and, with a sketching order from the late Sir Charles Barry, which allowed me to range over the Houses of Parliament, from the cellars to the then summit of the Victoria Tower, and one from the Dean of Westminster, giving me similar privileges in the Abbey, besides working diligently in other buildings, I got much new light on many matters of detail. During this stay I had the privilege of occupying the same lodgings with my life-long friend Mr. Macvicar Anderson. A short visit to Paris in 1851 also contributed to my equipment, but I must say that it required no small amount of courage, not to say cheek, to start business on my own account only about five years after commencing to learn it. But here begins my experience of the many kindnesses I have received from my professional brethren. Instead of looking down upon me as an interloper they at once extended the right hand of fellowship, and I became fast friends with John Burnet, J. T. Rochead, James Salmon, Alexander Thomson and his partner, John Baird, John Carrick, William Clark and George Bell, several of whom are now so well represented by their sons and even grandsons.

It may be interesting to notice, as evidence of the extraordinary change which has taken place in Glasgow during the past half-century, that in the Post Office Directory of 1853-54 the total number of names under the heading "Architects" is 32, whereas in the Directory of 1903-4 it is 174. It is a sad reflection that my old friends whom I have just mentioned are all gone, though many of them have left their mark on the architecture of the city. My first office was an attic in Moore Place, over Bannatyne & Kirkwood's office, now no longer recognisable. I was quite content with one or two small jobs, as I resolved to spend a large proportion of my time at first in the study of ancient buildings both in England and Scotland, and this I continued to do for many years, although the work entrusted to me increased in importance rapidly. In the second year I got by competition the Free West Church, Greenock, and shortly afterwards, also by limited competition, Lansdowne Church, and about the same time St. Silas's Episcopal Church and Trinity Congregational Church, and several villas, one being Knockderry Castle, Cove, which has been recently so much enlarged and improved under the skilful hands of Mr Leiper that it is hardly recognisable. But although in this way work rapidly increased, I managed to find time to take a part in the competition for the Houses of Parliament at Sydney, a most laborious undertaking, as most of the work, including a large perspective view, had to be done by my own hands, and although I was unsuccessful, I had the satisfaction of having my design included in the short leet. Before the first decade of my practice had come to an end my position was assured, and I had fully justified my adventurous start. But I have never from the first confined my attention exclusively to architecture, and in 1854 I published my first brochure on "The Age of Glasgow Cathedral and the Effigy in the Crypt;" and, in 1858, when one of the periodical scares regarding the condition of the river was at its height, I read a paper before the Architectural Society on "The Drainage of Glasgow, with special reference to the Ventilation of Sewers and the Trapping of House Drains." On that occasion I exhibited a full-size section of a fireclay trap having two eyes, one at each side of the water seal, to enable the drain on both sides of the trap to be ventilated and to facilitate the cleansing of the trap. This was the first trap invented which fulfilled these conditions, and it was invented by me at that early period of my career. Till then the trap in universal use was the bend, with one eye right in the middle of the tongue of the trap, which was often destroyed by it and by which no ventilation was possible. I think the only one at the meeting who appreciated the difference was Sir William T. Gairdner, who mentioned it to his friend Dr Parkes, of Netley Hospital, and it is figured in the first edition of Dr Parkes's celebrated text-book on Hygiene. I mention these particulars because it is, I think, generally supposed that this trap was the invention of the late Mr. W. P. Buchan; but that is a mistake. Mr Buchan was the chief means of introducing the trap to the public, but that was all; and he did so with my concurrence, as I had no idea of patenting it myself, and thought it might be practically useless unless someone had an interest in pushing it into notice. The public recognition of the value of the invention did not occur for about fifteen years after its exhibition and recommendation by me; then Buchan and many others brought it out with slight modifications, none of which were of substantial advantage or improved in the least its efficiency. I may mention that Buchan in his book on "Plumbing" very gratefully shows a woodcut which caricatures my trap. I never suggested making the inlet and outlet curves alike, but from the very first showed the outlet nearly twice as long as the other. I had got a few made for my own use and the use of clients by Messrs. Brown, of Paisley, before Buchan's were introduced into the market, and so well did they cleanse themselves that one through which all the sewage of my own house passed, after being thirteen years in use without cleansing, was found at the end of that period to contain only some small pieces of gravel which had got in through the grating, and not a particle of sewage. I think a section which proved so efficient as this did not require much improvement. I shall only mention two other things occurring within the period to which I promised to restrict myself. In 1855, along with Mr. William Church, jun., as he was always called, we succeeded in inducing some friends to unite in forming the Glasgow Archæological Society, an institution which is still—thanks to the zeal and wise guidance of Mr. W. G. Black and Mr. Dalrymple, of Woodhead—in a most flourishing condition and one of the most influential societies of the kind in the country. The first president was the then provost, Sir Andrew Orr, Mr. Church was hon. treasurer, and I was hon. secretary. So far as I am aware all the original members are dead except myself. In 1859 the 1st Dumbartonshire Volunteer Artillery corps was raised, mainly through the exertions of my friend Mr. James Galbraith and myself, and I continued for some time as first lieutenant and afterwards as captain of the corps for about ten years. But I must draw these reminiscences to a conclusion, and I must leave you, gentlemen, to consider the bearing of my case on the question of architectural education and the compulsory registration of architects, which is now regarded as apparently of vita consequence by a considerable section of the profession.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.

At the eighth sessional meeting of the above Society, Mr. Butler Wilson, F.R.I.B.A., presiding, a paper on the sketching excursions of the Birmingham Architectural Association was read by Mr. C. E. Bateman, F.R.I B.A., illustrated by 150 fine lantern slides prepared by Mr. John Ward. These covered most of the ground traversed by the Society during the past ten years, which was indicated by a map embracing the following centres of operation:—Broadway, Ludlow, Oxford, Tewkesbury, Cambridge and Ely, Cirencester, Stamford and Peterborough, Burford, Banbury and Kettering. During the discussion which followed, a vote of thanks, proposed by Mr. H. A Chapman, seconded by Mr. H. S. Chorley (hon. sec.), and supported by Mr. Robert P. Oglesby, was tendered to Mr. Bateman and Mr. Ward.

WAVERLEY ABBEY.

The Surrey Archæological Society has completed the excavations upon which it has been engaged for several years on the site of the ancient Cistercian abbey of Waverley, at Farnham. Further work would not be likely to be sufficiently fruitful in discoveries to justify the expenditure involved. The importance of the work is shown by the fact that the plan which it has now been possible to draw of the conventual buildings is the most complete of any which has as yet been made of a Cistercian house. It is proposed to reproduce this plan in colour, and on the same large scale that has already been adopted for Fountains and other abbeys, in illustration of a full account of Waverley Abbey which Mr. Harold Brakspear will contribute to the Society's collections. Reporting upon last season's excavations, the Society states that an examination of the ground north of the brewhouse resulted in the discovery of a large block of buildings, consisting of a small chamber placed east and west, and a much larger building to the north of it, the work being of the thirteenth century. Projecting west from the large building was an added building divided into three aisles by wooden posts on chamfered stone bases Mr. Brakspear's impression was that the small chamber was a kitchen, and the building to the north the house for inferior guests; that to the west would then be the secular infirmary. A thick boundary wall to the north-west was followed. This turned at a sharp angle and ran on westward, and terminated in a small room apparently of the twelfth century, with a doorway on the north and a fireplace on the east North of this was a large barn, with a doorway on the east opening out into a paved yard of considerable extent. South of the barn a large number of walls were found, but they all belonged to a period posterior to the suppression of the abbey The search for the gatehouse in this direction was unsuccessful. Some very interesting investigations were also made on the site of earlier excavations, with the object, successful in many cases, of clearing up doubtful points.

ARCHITECTS' BENEVOLENT SOCIETY.

THE annual general meeting of the subscribers and donors was held on the 10th inst. at the rooms of the Royal Institute of British Architects in Conduit Street. The president, Mr. Aston Webb, R.A., who took the chair, said in the course of his address that whereas the members of the Institute numbered 1,830, and there were some 5,000 architects practising in the United Kingdom, only 350 out of them subscribed to the funds of this Society. He made an urgent appeal for an increase in the number of subscribers, so as to augment the good work that was being done in connection with the Society, which was for all architects independently of their opinion or any Associations they may belong to, so that all those who, through no fault of their own, fell into want or distress might be relieved. He advocated that they should all unite, not only in the education of the young, but in helping the aged, the infirm and the unfortunate. Fifty-four applicants, it appeared, had been relieved during the year, and 60 per cent. of these came from the provinces The annual report, showing that the total subscriptions received during the past year amounted to 554*l.*, while the pensions and grants amounted to 830*l.*, was eventually submitted and adopted

A hearty vote of thanks was accorded to the retiring members of the Council, and then the election took place of the President and Council for the coming year. A vote of thanks was also given to Mr. W. Hilton Nash, the hon. treasurer, and Mr. Percivall Currey, the hon. secretary, who were re-elected. The proceedings were brought to a close by a unanimous vote of thanks to the Royal Society of British Architects for the use of their rooms and to the Chairman.

SHEFFIELD SOCIETY OF ARCHITECTS AND SURVEYORS.

THE monthly meeting of the Sheffield Society of Architects and Surveyors was held on the 10th inst. in the lecture hall of the Literary and Philosophical Society, Leopold Street, Sheffield. Amongst those present were Messrs T. Winder (in the chair), E. M. Gibbs, H. L. Paterson, C. F. Innocent, J. B. Mitchell-Withers, T. Swaffield Brown, C. F. Longden, Horace Wilson, E. Howarth, W. C. Fenton (hon. sec.) and many other members and visitors. Letters of apology for absence were received from Messrs. P. Marshall, R. W. Fowler, Alderman J. W. Wilson, Dr. W. S. Porter and R. Leader.

Mr. J. R. Wigfull, A.R.I.B.A., one of the local secretaries for the congress held in Sheffield last August, gave a lecture entitled "In Worksop and Neighbourhood with the British Archæological Association." His remarks were descriptive of one of the day's excursions undertaken by members and friends of the Association. Selecting the churches of Blyth, Worksop and Steetley, he showed by means of plans and views their history and characteristic features. These churches, he said, were all of the Norman period, and formed excellent examples for the study of that style, as they embraced all the phases of the style from the somewhat rude and archaic work of Blyth to the perfected and semi-transitional work at Worksop. The latter, however, suffered extensively when the church was "thoroughly restored" in 1847. Most of the original features were then so reworked or replaced by new material as to give the idea at first of a new church. Some features of interest remained, notably the thirteenth-century chapel and the beautiful ironwork on the south doorway. The lecture was admirably illustrated by numerous lantern slides, exhibited by Mr. J. Atkinson, of University College.

On the motion of Mr. C. M. Hadfield, seconded by Mr. W. Potts, and supported by Messrs. W. J. Pale, Horace Wilson and E. Howarth, a hearty vote of thanks was accorded to the lecturer.

THE TOMB OF QUEEN HATSHEPSU.

A YEAR ago we gave an account, says the *Times*, of the discovery at Thebes of the tomb of one of the Egyptian Pharaohs of the eighteenth dynasty, Thothmes IV., which was due to the enterprise and liberality of an American gentleman, Mr. Theodore M. Davis. This year a still more important tomb has been discovered in the immediate neighbourhood of the other. It is the last resting-place of the famous Queen Hatshepsu, the builder of the beautiful temple of Dêr el-Bâhari and the sender of an exploring expedition to the Somali coast. The difficulties in the way of the excavators, however, have been extraordinary; and that they have been overcome is due to the lavish expenditure and American tenacity of Mr. Davis and the engineering skill and unwearied exertions of Mr. Howard Carter, the inspector of Egyptian antiquities, to whose hands Mr. Davis entrusted the prosecution of the work.

Like the other royal sepulchres in the Valley of the Tombs of the Kings at Thebes, the tomb of "the Great Queen" consists for the most part of a corridor sloping downward at a somewhat sharp angle into the heart of a limestone mountain. The entrance of the tomb, commonly called "Number Twenty," was already known to the members of the French Commission, and it was excavated by Lepsius for a distance of 56 metres. Beyond this point he had not the patience, or perhaps the means, to go, and an idea grew up that the corridor did not lead to a tomb at all, but was an underground passage from the Valley of the Royal Tombs to the temple of Dêr el-Bâhari.

A clearance of the rubbish near the mouth of it, made by Mr. Davis last spring, settled the question. Here a number of small articles were found which showed not only that it was the entrance to a tomb, but that the tomb was that of Hatshepsu. The work of clearing out the tomb itself was at once taken in hand, and has but just been brought to a conclusion. The mouth of the corridor happened to be in the path of a watercourse, the result being that whenever a thunderstorm took place the water poured down the sloping passage, filling it with boulders of stone and a breccia almost harder than the rock itself. All this it has been necessary to remove foot by foot for a distance of no less than 194 metres. The later part of the work of excavating has been particularly difficult owing to the foul air and excessive heat of the interior.

The direction taken by the long corridor of the tomb is most remarkable. The entrance is in the axis of the Temple of Dêr el-Bâhari, which stands on the other side of the cliff, and it was natural to suppose that the corridor was intended to lead to the temple. Instead of doing so, it suddenly curves southward, and after continuing for more than 60 metres in a southerly direction, once more turns to the west. At a distance of 56 metres a chamber is reached—the extreme point attained by Lepsius; then after another 60 metres, there is a second chamber, and after 36 metres more a third From this third chamber a passage curves inward and leads to the burial chamber, in which two sarcophagi have just been found The sarcophagi are of hard sandstone which has been polished like a copper disc, and are covered with beautifully-formed hieroglyphics. From these we learn that one of the sarcophagi contained the mummy of Hatshepu, the other that of her father Thothmes I. The lids of the sarcophagi lie on the floor, and by the side of that of Hatshepsu is a canopic jar of polished sandstone

The sarcophagi are empty; the mummy of Thothmes I., in fact, was one of those which were found in the pit at Dêr el-Bâhari, and is now in the Cairo museum The mummy of Hatshepsu may still be lying in one of the unexplored side-chambers of the tomb, where it would have been deposited for the sake of safety in some period of danger. But the work of completely clearing out the burial chamber and such side-chambers as exist will be a long one. The rock through which the tomb has been cut is bad—the cause, probably, both of the length and of the curious curvature of the corridor—and the chambers are blocked with fragments of it which have fallen from the ceiling. This is more especially the case with the third chamber, the roof of which was originally supported by columns, whose heads now appear above the masses of fallen rock. It would seem that the sides of the chamber were coated with limestone, since squared blocks of fine limestone have been found among the débris, painted with representations of scenes from the Book of the Dead. The chamber is from 40 feet to 50 feet in length, and there are several side-chambers opening off from it. These are still filled with fallen rock and rubbish, but enough is visible to show that they also were panelled with painted limestone.

Until the débris are removed it will be impossible to tell whether any objects of historical importance await the explorer. In the third chamber, however, fragments of large and beautiful vases have been picked up; and the fact that the sarcophagus of Thothmes I. has been found by the side of that of Hatshepsu throws a new light on the history of the tomb, and explains why it has no connection with the temple of Dêr el-Bâhari. It was made, as we now learn, not by the queen, but by her father. Indeed, a fragmentary inscription on a vase from the third chamber has even suggested the possibility that it was of still older origin, constructed in the earliest years of the eighteenth dynasty and intended to be the common burial-place of the royal family. Whether this suggestion is right or wrong cannot be definitely settled until the summer, when the work of removing all the rubbish from the chambers may be expected to have come to an end.

Excavations on the site of ancient Syracuse have brought to light some interesting portions of the city in its Greek period of civilisation. They include an aqueduct tunnelled through solid rock, parts of the fortifications, and a large number of tombs rich in the pottery of remote ages, and including many amphoræ of superb carving and ornamentation.

NOTES AND COMMENTS.

George Stephenson said that he had to fight single-handed during twenty years in order to obtain recognition for the locomotive. An early example of his engine is, therefore, a relic which should be prized. There is no doubt the "Invicta" which Sir David Salomons offered to the London County Council, with 1,000*l.* to cover the cost of erection, deserves to be honoured as a victorious agent like the *Victory* at Portsmouth. But its proper place would be near the railway or tramroad on which it was first used. It would be out of place at the Lambeth end of Westminster Bridge, and we are surprised the historical records and buildings committee should have thought it suitable for such a site. Fortunately a majority of the Council on Tuesday decided that the proposal should not be approved but referred back to the committee. London needs more ornamentation in its public places, but they must be of a different class to the "Invicta."

At the present time the formation of naval works in the neighbourhood of the Forth Bridge is receiving attention, and whatever may be the cost the works will have to be carried out. It is one advantage in connection with the project that there is no necessity to consider the susceptibilities of other States. The resolution of the French Government to create at Tunis similar works on a smaller scale was one of the causes of the coldness which exists between France and Italy. It had been declared that France felt no desire to gain a footing in Tunis. But the seizure of the Salt Lake of Bizerta, which has an area of forty five square miles, and the works undertaken to convert it into a naval port have been interpreted as efforts to interfere with Italian power in the Mediterranean, besides forming a constant menace to the south coast of Italy. The works were executed by the French in a state of excitement. In 1898 a movable bridge was constructed at a cost of 900,000 francs. The pylons were so high that the military chiefs immediately realised that they would act as landmarks in a flat country and serve to guide an attacking force. It was also found that the wonderful bridge was an obstacle to the development of the naval station. In the manœuvres the bridge was voted to be a nuisance. But French officials naturally are slow to acknowledge a blunder. The present Minister of Marine is unpopular, and therefore he can undertake duties which other statesmen would fear. He has accordingly given instructions for the demolition of the moving bridge, which will be replaced by two steam ferries. It is easy, however, to order a demolition, but under the peculiar circumstances it will be carried out with difficulty at Bizerta. It is to be hoped our authorities will take a lesson from what has occurred at Tunis, and that the new works at Rosyth will not present examples of engineering which are more dangerous to friends than to foes, and will sooner or later have to be destroyed.

ILLUSTRATIONS.

MANSIONS, PORTLAND PLACE, W.

The illustrations of Fitzroy Square which we have published show two experiments by Robert Adam for varying the monotony that was common in a row of London houses. The example from Portland Place is an effort to impart dignity to a pair of houses by treating them as if they formed one large mansion. That was not the only unity which Adam desired to express. The whole of the buildings above the ground floor being covered with stucco might be one vast casting. The panels, frieze and pilasters look as if they were produced by the same process as the planes. Whether Adam realised that the occupants, lessees or owners of the houses might not be always in agreement is unknown. But cases have occurred in similar compound buildings when the dual occupancy was marked by a difference of colour, from which the central panels and even a bust in a recess formed in the pediment were not exempted. The treatment of the attics in the Portland Place houses exemplifies an indifference to uniformity which would be asserted if necessary in other ways. The contrast between Adam's buildings and the adjoining brick houses raises the question whether shams or realities are more desirable in construction. The examples in London which were inspired by the Adam treatment are countless, and there still are experts with experience in house property who believe that "compo" is the most eligible of materials for a respectable London street.

THE TREASURER'S HOUSE, YORK.—RESTORATION ROOM—HALL AND STAIRCASE.

GAULTIER, CAMBRIDGE.

PUBLIC LIBRARY, BALLYMACARRETT, BELFAST.

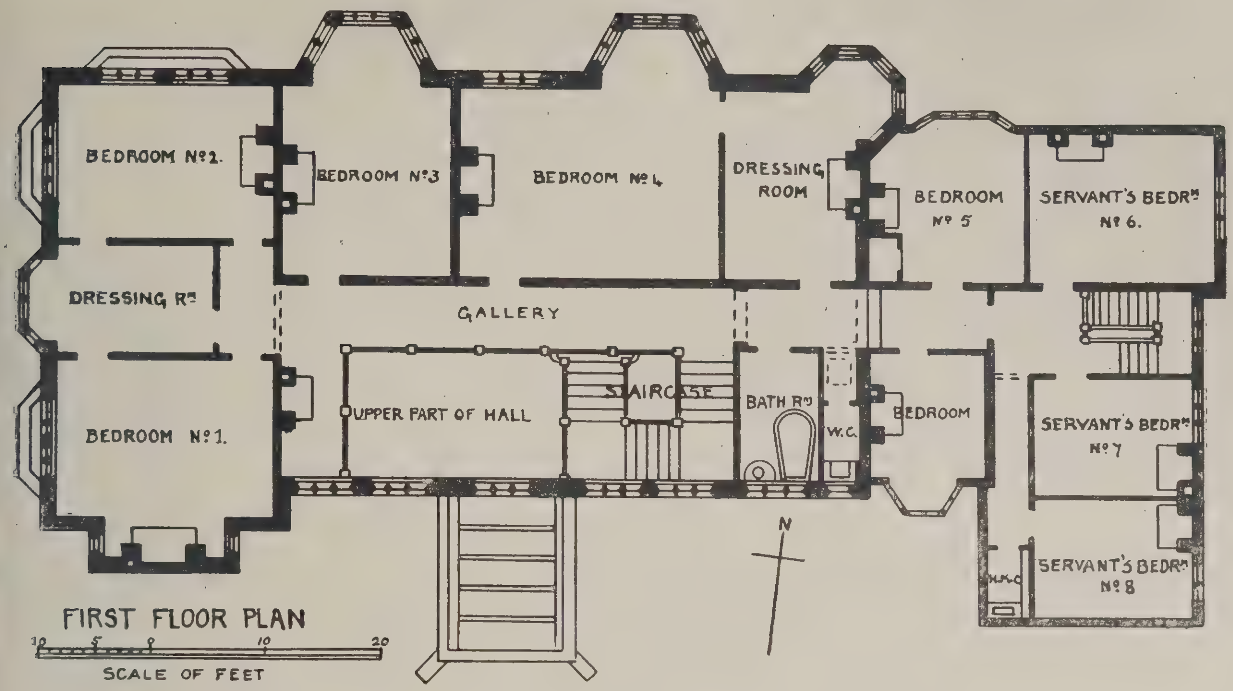
A central free library was recently erected in Royal Avenue, Belfast. It was found to be insufficient to satisfy the population of the city and branch libraries became necessary. The first erected was in the populous district of Ballymacarrett. The illustration shows the building. The site has a frontage of about 80 feet. The walls are built of compressed bricks pointed with cream-coloured mortar, with strings and dressings of Giffnock stone, while all the windows are formed of stone, with mullions, as are also the front entrance door and upper part of the tower. The principal features are the main gable and the tower. The roofs of the building are covered with Westmoreland green slates, which harmonise with the stone and brick. The floors of all the rooms are laid with pitch-pine wood blocks by Messrs. Geary, Walker & Co., and the terrazzo marble in the porch, hall and landings was executed by Messrs. Diespeker, of London. The walls of all the public rooms, porch, hall and staircases have a dado of white glazed tiles 5 feet 6 inches high, having at top an ornamental green tile with a moulded tile over to form the finish; above this the walls are all finished grey. The stained and leaded glass was executed by Messrs. Campbell Bros. The building throughout is lighted by electricity, carried out by Messrs. Smith & Parkes, and heated by Messrs. Musgrave & Co.'s high pressure hot-water system. The stone carving was by Messrs. Winter & Thompson. The wrought-ironwork was carried out by Mr. Wm. Greer. The general contractor was Mr. John Dowling, whose tender was 3,757*l.* The architects are Messrs. Blackwood & Jury, of Belfast.

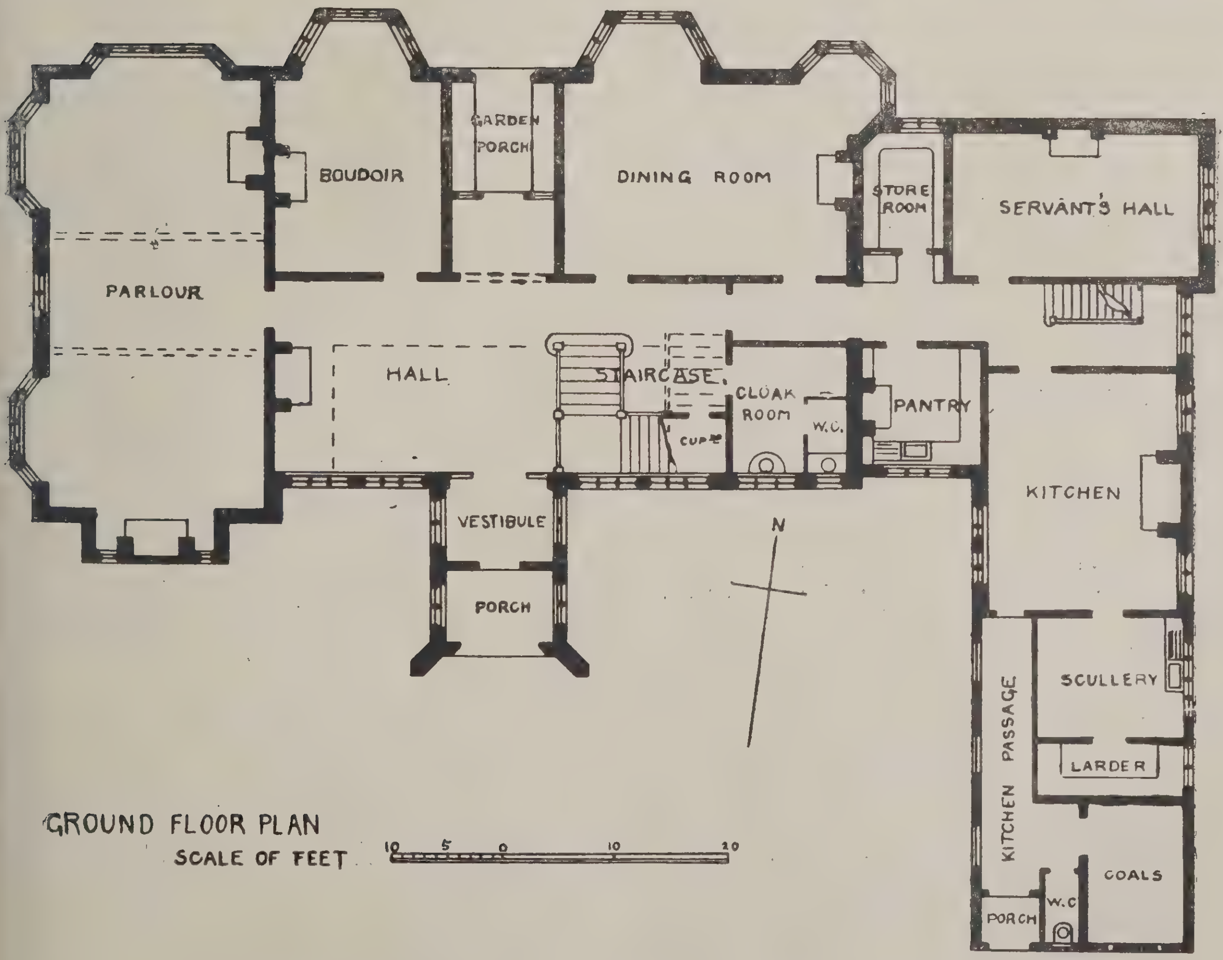
PROPOSED BAPTIST CHURCH AND SCHOOLS, BURNHAM-ON-CROUCH, ESSEX.

The building illustrated will occupy a corner site in the High Street, and the church has been designed to accommodate about 300 on ground floor and 80 in gallery. The schoolroom is lighted from above, and will be used also for lectures and meetings, &c., and vestries and infant classroom are also provided. The elevations are faced with red brick and patent stone dressings, and the panels between brick margins are filled in with rough cast The lowest tender for the work was 3,160*l.* The architects are Messrs. Searle & Hayes, Paternoster House, E.C.

THE CLUB, CHESLYN HAY, STAFFS.

This Club recently erected was to have been opened by the Countess of Warwick, whose practical interest in the social welfare of the people is abundantly manifest in this part of the world; at the last moment, however, family bereavement prevented her Ladyship being present. The club is highly popular, and has a membership roll of about 200. The building has been erected to the satisfaction of everybody concerned by Mr. Thomas Mason, of Hednesford, at a cost of 1,042*l.*, from the designs and under the superintendence of J. H Hickton and H. E. Farmer, Fellows of the R.I.B.A., of Walsall.





CRANFORD HOUSE, LEAMINGTON. (R. A. Briggs, F.R.I.B.A., *Architect.*)

We published last week two illustrations of Cranford House. Owing to the necessity of giving an extra number of articles we were obliged to hold back the above plans.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last, Mr. A. Darbyshire, vice-president, in the chair.

The Late Dr. A. S. Murray.

The Hon. Secretary announced the decease of Mr. Joseph W. Twist, of Bloemfontein, elected Associate in 1891, and of Dr. A. S. Murray, keeper of Greek and Roman antiquities in the British Museum. Dr. Murray's had been a meritorious career, and they were under a debt of gratitude for the many kind services he had rendered them in matters in which he was a master. He was acquainted with every branch of Classical archæology and, in particular, Greek sculpture. Dr. Murray's literary achievements were known to all, and, indeed, it could be said that in all work he had gained success. He belonged to a type of student that was diminishing rather than increasing, and for that reason they would all the more deplore his loss. To the members of the Institute Dr. Murray would always remain a pleasant memory, and they would remember him as a kind friend and learned man. They could not, therefore, do less than record their feelings by a sympathetic letter to Dr. Murray's widow and relatives, in full recognition of all the kind services he had rendered the Institute and the work of a long career in Classical archæology.

Mr. J. D. CRACE read a paper on

Plaster Decoration.

Alluding to the origin of the plastic art, he said it was reasonable to suppose that such fictile substances as clay were wrought into form even before man learned to bake earthen vessels. The mud-built houses of man, even in a barbaric state, could not have been void of all attempt at ornamentation when the material itself offered such facilities. The surface of mud-brick walls must soon have been "rendered" with a coating of the same material, which whilst moist would readily receive any impress—the imprints of the workman's hand, marks left by his rough tools; a chance symmetry would lead him to intentional device, impressed by his fingers or traced with a stick.

The use of stone led to the demand for some material which would adhere to stone and give a uniform surface, and this was found in simple compositions having burnt lime as the binding ingredient. Plaster, in the form of a very fine, smooth coating of lime-putty, was used to give a finished surface to the stone structures of Egypt in very early times, but does not seem to have been much used plastically for onamentation. It was similarly used by the Greeks, and the author gave reasons for his inference that stucco was used decoratively in an early period of Greek history. Among the many wonderful revelations of Mr. Arthur Evans's explorations in Crete are the stucco decorations in relief of the walls of the Palace of Knossos, which was destroyed before 1500 B.C.

Beautiful specimens of decorative stucco-work have been unearthed in excavating the ancient sites of Rome and the surrounding country. The author referred to those at the Baths of Titus discovered in the sixteenth century, to those at Herculaneum and Pompeii, and to the decoration of two sepulchral chambers discovered on the Via Latina dating about A.D. 160. In the Farnesina grounds remains of buildings have been unearthed with stucco reliefs unsurpassable for elegance and refinement of execution. One great value of these works is the lesson they teach in the adjustment of the actual treatment in execution to the nature of the material. The whole surface speaks aloud of the ready and dexterous use of fingers and tools on a light plastic material. One almost imagines the stucco yet moist, still impressible to the touch. It is as if some fairy goddess had found it soft and lightly fingered it. There is a sense of evanescence about it, whilst the charm of perfect attainment remains.

The author then turned to a very beautiful but very different growth of plaster decoration developed under the Mohammedan conquerors, describing the decorations of the great mosque of Ibn Tooloon at Cairo (ninth century) In the Arabic art of Egypt plaster continued to be used as an important factor in decoration during the next five centuries. The ornamentation of the domes and the use of a fine stucco in low-relief ornament, as a preparation for gilding and colour on the wooden beams of its flat roofs, are specially noteworthy. The palace of the Alhambra is the very apotheosis of plaster—of plaster casting carried perhaps to an excess of richness and elaboration, but never losing its true quality of ornament designed purposely for casting The beautiful effects of a mere repeat casting were attained because (1) the designers thoroughly understood grace of line and how to fill their spaces; (2) they never lost sight of the fact that the work was to be cast; (3) most important of all, the repetition did not include the representation of natural objects, for it is where representations of nature are concerned that repetition is offensive.

In European art during Mediæval times we get little glimpse of the decorative use of stucco until the fifteenth century. An original and striking example is to be seen in the drum of the dome of San Eustorgio at Milan, the work of Michelozzo Michelozzi, of Florence, said to have been executed in 1462. In the second half of the fifteenth century Bernardino Pinturicchio was making considerable use of low-relief enrichments, not only for the mouldings with which he divided the surfaces he had to decorate, but as ornamental features within the paintings themselves. A few years after Bramante was at work on St. Peter's. His investigations, says Vasari, resulted in the discovery of the method of preparing stucco employed by the ancients, the secret of which had been lost in their ruin and remained concealed ever since. Vasari relates how Raphael and Giovanni da Udine went together to see some subterranean chambers then just discovered in excavating the Baths of Titus. Giovanni was so much impressed by the stucco decorations with which they were covered that he devoted himself to their study, and reproduced them with so much grace and facility that there was only now wanting to him the knowledge how to compound the stucco. At length, by compounding finely powdered white marble with the lime from white travertine, he succeeded in producing the stucco of the ancients. Raphael at once caused Giovanni to decorate all the vaultings of the Papal Loggie in stucco. Pierino del Vaga, another of that wonderful band of young artists in the Vatican, stands pre-eminent as an ornamentist and as a decorative colourist; his stucco-work has a quality of fine decorative appropriateness, both in design and scale, that has been surpassed by none. Of his bolder conceptions the great ceiling of the Sala Regia is a fine example. Alessandro Vittoria was one of the best known stucco-workers in the latter half of the sixteenth century. His work under Sansovino at Venice, in the Libreria and in the Scala d'Oro of the Ducal Palace are characteristic examples of his style.

Francis I. attracted to France some of the most capable of the Italian artists skilled in stucco Primaticcio and Il Rosso came about 1530, and their wonderful stucco decorations at Fontainebleau long influenced French design and French sculpture. Niccolo dell Abbate followed twenty years later, and then his three sons, the youngest becoming after a time the director or manager of these decorative works. Their work is a fine field for the study of what may be done in stucco, and it was the parent of the rich decorations of Louis XIV.'s reign, which, in their turn, became the model for civilised Europe.

Henry VIII. was also very successful in securing the services of able artists in England, many of them pupils or relations of those who were at work on the masterpieces of the Vatican. Pietro Torrigiano, who was among the earliest, completed the bronze monument of Henry VII. in 1519.

It was to the Palace of Nonsuch that the new stream of talent was directed; although not a vestige of it now remains, the names of some of the men who adorned it are a guarantee that the work was neither coarse nor commonplace. As to the question lately raised about the external panels of Nonsuch being in stucco, the author said there was not the smallest doubt on the subject. There were plenty of examples done more roughly within the next seventy or eighty years which remain to this day, in spite of exposure and neglect.

External decorative work in plaster continued to be a feature of many English houses down to the end of the seventeenth century. But the interior was the more important field, and from the time of Nonsuch for a century no house of any pretence was without its elaborate plaster ceiling and frieze. Admirable in many ways as these old English ceilings are, few of the men who did them had either the art or the skill of the Italians who made ornamental plaster-work popular. The latter endeavoured to make their work perfect in modelling and finish Each figure was a work of art. In the English plaster-work, however, scarcely a figure can be found that is not more or less barbaric in execution, and the minor work, effective as it is, is often greatly wanting in grace of line and in intelligent modelling.

The next step in English plaster-work leads straight to the Classic work of Jones and Wren. The gap caused by the Civil War made the change more complete. Building operations after the Great Fire opened the way to new men and methods. French and Italian plaster-workers were again invited to England in Charles II's reign. Besides the work in St. Paul's, St. Stephen's Walbrook and other City churches, the chapel of Trinity College, Oxford, may be cited as a good typical specimen of plaster ornamentation. A feature of some of the plaster decoration of the end of the seventeenth century is the elaborate modelling of fruit, flowers and foliage in full relief, often in parts quite detached from the grounds, and either supported by wires embedded in the plaster or by small sticks of tough wood This work, full as it is of artistic ingenuity and clever modelling, was by that very ingenuity departing from any true principles of stucco-work, and therefore hastening the decay of the art. A notable example is the ceiling of the chapel of the Royal Hospital, Kilmainham.

The next modification of style was largely due to Kent. In his designs the plaster ornamentation is mainly used as archictural enrichment, bold in treatment—sometimes too bold r the space, but effective in its way. Following closely on ent's work came a flood of plaster ornament derived from the rench work of the time (Louis XV.). This was sometimes ery good—often straggling and purposeless, yet not without a ertain elegance. The best of it was at least partly modelled, ut the greater part was cast and fixed. With this style stucco odelling practically came to an end. All that followed was ast and fixed.

The change of style brought about by the brothers Adam as due to the same influence which had produced the detail the Vatican Loggie and the Villa Madama, namely, that of e antique stucchi in the excavated ruins in Rome. The fference in the result may be thus accounted for. Giovanni a Udine studied them as an artist by endeavouring to produce milar work with his own hands. Robert Adam as a raughtsman copied them on paper, as did probably the renchmen through whom France adopted the style. It was ndoubtedly elegant and the effect refined; and since the ethod of reproduction was mechanical it lent itself to extenve use.

Much good plaster-work has been done in the last half of e nineteenth century—always in the form of attempts, somemes very successful, to reproduce a past style, and by casting. Fibrous plaster," introduced since 1861, is a valuable novation, and presents immense advantages. It does away ith the danger of enormous overhead weight, and requires so uch the less timber structure to carry it; it can be executed ickly and it dries quickly.

The facility of plaster-work is at once its recommendation d its danger. It is, perhaps, well to be sometimes reminded at the simplest materials have not been scorned by the reatest men, and that the finished result of any art pleases not nly by the talent bestowed on it, but by the fitness of the nitations which the artist has imposed on himself.

The illustrations to the paper included numerous lantern ews, photographs and specimens of plaster decoration.

Mr. R. Phenè Spiers proposed a vote of thanks to Mr. race, which was seconded by Mr. G. H. Fellowes Prynne d supported by Mr. W. Aumonier.

TOYNBEE ANTIQUARIAN SOCIETY.

ON Tuesday, the 8th inst., Mr. Thos. Francis Bumpus (author of several well known ecclesiological works) elivered his concluding lecture on "Some Gothic Cathedrals England, France and Germany," at the Toynbee Settlement. his one, perhaps the most interesting of the three into which e course was divided, dealt with the Perpendicular and Late othic periods in the three countries, and was not only illusated by a number of lantern slides, but interspersed with usic, some of it being played on the grand pianoforte by the cturer himself, and the rest by Mr. John E. West, F.R.C.O., eat care being taken to select pieces appropriate to the ildings represented. The Anglican style was assigned to r. West, while Mr Bumpus contributed the plain chant or regorian items. Among the views shown were the naves of anterbury and Winchester cathedrals, which were contrasted d compared, and the choir of Gloucester Cathedral, which wed its magnificence to a bold stroke of policy on the part Abbot John Thokey, who had the body of Edward II interred ere, when the abbots of Bristol, Kingswood and Malmesbury fused to receive it. By doing so Thokey converted one of e weakest and most dissolute of our monarchs into a saint d martyr, at whose tomb offerings were poured in with such rodigality that they would have sufficed to rebuild the great orman church of Serlo. All Souls College Chapel, Oxford; t. George's Chapel, Windsor; King's College Chapel, Camridge; and a series of Perpendicular churches, including t. John's and St. Michael's, Coventry, Beccles, Long Melford, irencester, St. Mary's, Beverley, and several Devonian ones ith their sumptuous chancel screens were also shown. The ate Gothic of France and Germany were also described and lustrated, after which Mr. Bumpus proceeded to consider the ediæval and Renaissance arrangements of choirs, illustrating is theme by views of the glorious ranges of stalls at Chester, incoln, Albi, Amiens and Auch, and by the rood-screens at alberstadt and Hildesheim. The latter part of the lecture as devoted to a sketch of church architecture in England nce the Reformation, and some account of the revival of the ue principles of Gothic architecture under Butterfield, arpenter, Pearson, Pugin, Scott, Street and others was illusated by views of Exeter and Keble College chapels at Oxford, nd of St. John's at Cambridge; St. Mary's Cathedral, Edinurgh; St. Fin Barr's at Cork, and that of Truro The usical selection included Sir John Goss's anthem "O Praise e Lord, laud ye," and Walmisley's "Not unto us" (played by r. West), and a "Kyrie" and "Gloria in Excelsis" from the alisbury Gradual, and the hymns "Adoro te devote," "Stabat Mater" and "Vexilla Regis" by the lecturer, who likewise contributed a charming Gallican melody of the eighteenth century from a Dijon service book to the hymn "Jerusalem et Sion Filiæ." Altogether a very enjoyable ecclesiological couple of hours was spent.

DOMESTIC FIRES AND THE SMOKE NUISANCE.*

THIS country's wealth and progress is largely due to our rich inheritance of seemingly almost inexhaustible coalfields, which, like profligate legatees, we have used in a most improvident fashion; as a result the legacy has been anything but an unmixed blessing. We owe to this inheritance our foul atmosphere laden with particles of unconsumed carbon and deleterious acids. The sulphur dioxide sent from our chimneys oxidises to sulphuric acid, eats away our stone and brick buildings, defaces our monuments and kills our vegetation. It has also been clearly shown that our town fog—the type of fog that is dark yellow and greasy—is caused by the sooty particles from our chimneys around which vapours condense. Professor Oliver, from tests made in Kew and Chelsea, obtained data enabling him to report to the Royal Horticultural Society that after a dense fog there was a deposit of carbon and acids of over six tons to the square mile in the London district.

Bronchitis and consumption are rife in our densely populated towns, and though the artisans are better paid and can afford to be better clad and to obtain better food than the agricultural labourers, yet their stamina is poor in comparison with that of their country brethren, due to the polluted air that they are compelled to breathe. There are not wanting signs that the efforts of our reformers are having effect in the abatement of smoke, but these improvements are almost entirely confined to the smoke from fuel used for industrial purposes; our domestic fire-grate remains the greatest sinner against pure air—this can be easily understood. Sanitary reformers have been able to prove to manufacturers that the abolition of smoke from their works would give them such an economy as would amply repay for the outlay of capital necessary for bringing about this result. On the other hand, any economy of fuel in our homes would be so widespread and the individual amount so small, that householders have not considered the subject worthy of attention, and have continued a policy of retaliation, each assisting in poisoning his neighbour.

It is only to municipal authorities, architects and engineers, therefore, that we can look for those efforts which will eventually rid us of the smoke nuisance, and it is only by continual ventilation of the subject that the desire for heat without the accompaniment of smoke can be stimulated. The daily canopy of smoke overshadowing London was estimated some years ago by Professor C. Roberts, F.R.S., at 50 tons of solid carbon and 250 tons of carbonic oxide gases, acids and hydro-carbons. The late Dr Angus Smith stated that each million tons of coal used should provide an amount of manure sufficient to increase the produce of our land in food stuffs 533,000*l.* This extra production estimated upon our present coal consumption would be over 95,000,000*l.* sterling annually. The *Daily Telegraph*, in the issues of August 17 and 28, 1903, foretold the recent fogs and pointed out that our domestic house fire would be the cause of the visitation. Fully 40 per cent. of the heat from our domestic fire-grates is positively wasted; we are, however, on the eve of an inevitable revolution in methods of obtaining power and heat, and the signs have spread further than many of us think.

At a meeting of the Royal Commission on London Traffic, Alderman Sir Henry Edmund Knight suggested that the use of coals in London should be interdicted and gas substituted so as to relieve the congested streets In the past attempts have been made to prohibit the use of coal in London, notably in the reign of Queen Elizabeth, but at that time there was not a sufficiently good substitute to offer in its place. To-day, however, matters are different, and the subject might be most effectively dealt with by prohibitory measures making compulsory within a fixed period the adoption of systems more free from nuisance than those at present existing. The smoke fiend would be exterminated, our coal resources economised and our street traffic relieved. Fuel in the future will be delivered in a gaseous form; this is the only solution of a great scientific problem, the conversion of the latent energy stored in coal into an amount of useful work nearer approaching the mechanical equivalent than now attained.

During the last twenty years the improvements that have been made in methods of obtaining power and heat have been continuous In the year 1885 Sir Frederick Bramwell, in a paper read before the Institute of Civil Engineers, stated that tests had been made of a number of non-condensing steam-engines taken indiscriminately from amongst users of power in

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* A paper read before the Society of Architects by Mr. T. G. Marsh, M.E., on March 17.

Birmingham, the engines varying from 5 horse-power to 30 horse-power, and that the average consumption of coal was 18·1 lbs. per horse-power. Engines of so wasteful a character would be very difficult to find at the present date; for the most part these inefficient engines have been displaced by the gas-engines, and boilers, chimneys and smoke have been dispensed with. In the larger type of steam-engine, those of the compound condensing type, makers are prepared to guarantee that the consumption of coal shall not be more than 2 lbs per horse-power hour; this shows what wonderful economies have taken place, yet when we remember that the amount of energy stored in a pound of coal is equal to $5\frac{1}{2}$ horse-power, it shows how far we are yet from perfection. We practically obtain only one-tenth of the stored energy contained in the fuel. With the gas-engine we obtain about one-fourth. Many of the foremost builders of steam-engines, recognising that its days are numbered, are turning their attention to the gas-engine industry.

As an illustration of the growing favour of smokeless power, I would point out that whilst in the year 1883 there were only 5,000 gas-engines, and these mostly of small power, being used in Great Britain, there are to-day 90,000, of sizes varying from $\frac{1}{2}$ horse-power to 700 horse-power. Numerous gas-engines of 1,000 horse-power, and even larger sizes are now being manufactured, and I may state that the rate of output of gas-engines is now about 150 per week Taking these facts into account, and recognising moreover that Mond power gas, the Dellwik gas and other power gases are coming largely into use, not only as fuel for gas-engines, but also for furnaces and for every description of heat required in the industries, and that these gases will be brought to the doors of the consumers by the various power gas corporations as our lighting gas is to-day, we may confidently look forward to a time when smoke from this section will be practically a thing of the past. Recently I had the pleasure of visiting a factory employing a very large number of tin-plate workers; their stoves, metal pots and also the power was obtained entirely from coal gas. In wire-works, gaseous fuel is now admittedly the best and most economical for their various operations

Having seen the great improvements made by all other fuel consumers, we will now turn to the domestic consumer. I am not prepared to say that in this case the amount of smoke sent out has not been decreased, but certainly it has not decreased to the same extent as in the other sections. We find that there are 1,330,000 gas-cookers in use in the United Kingdom, and these more especially during the summer months have considerably decreased the coal bill, and upon this particular subject I would call your attention to a matter which has probably escaped your notice, but which is well worthy of consideration. Gas-cooking stoves are almost invariably fixed in the houses without any connection to the chimney and there is no means of freeing the house from the odour of the cooking viands. I have frequently had to complain of the smell arising from these; in very few instances have I found the odour to be due to the products of combustion, but generally to be the result of the burning of grease that has been allowed to accumulate on the stove. A simple arrangement for the carrying off of these odours to the chimney-breast or other suitable position would, I am sure, be considered as a great boon, and seeing that one-fifth of the whole of the gas consumers of this country are now users of gas-cooking stoves, I think the matter well worth attention, and would impress upon architects generally the great necessity for providing special flues for gas-cooking arrangements

As regards the heating of our houses, we have in this country almost exclusively the old-fashioned open fire-grates, cheerful in appearance and wasting a large percentage of the fuel. Various attempts have been made to improve these fires, but they have almost without exception been failures, for the reason that in a domestic house the servant, unlike the stoker in a mill, has no care in her methods of handling the fuel It is thrown on the fire with little or no judgment, with the result that we have vast volumes of smoke, and until there is adopted an efficient domestic fire fed by gaseous fuel, we shall continue to have our recurring fogs and our more or less smoky atmosphere. I am of opinion that the principal reason why gaseous fuel has not been adopted more generally for heating purposes is that the price has been considered prohibitive, in many cases the various savings attendant upon its adoption not having been fully taken into account. I believe that gas should be sold at a very considerable reduction in price for purposes other than lighting.

It may be taken that a gas-cooking stove using gas at 3*s*. per 1,000 cubic feet and a kitchen range with coal at 16*s*. per ton are about on a par as to cost. It is, however, very different with gas fires With these the price of gas should be fully 20 per cent. less than in the case of cookers, otherwise the cost is much too high to allow of their general adoption.

The sale of gas for the purposes of heat and power was never cultivated, but was rather held back by the majority of our gas authorities until competition began to face them in the shape of the electric light.

The wedding together of the two businesses, that of "lighting" and that of "heating and power," was simply a "marriage of convenience," and though some gas authorities claim that the price of gas should be the same to all consumers, I am not at one with them in this contention, and consider that, like all marriages of convenience, this one (light and fuel) will come to an end unless more favour is shown to the fuel. Though the gas sold in each case is exactly similar, the cost of that which is sold for heat and power is certainly considerably less than that which is used for lighting. The capital expenditure required for supplying lighting gas is about five times that required for the supply of gas for heat and power, as in one case the greater portion of the annual sale is during four months of the year and only during a few hours per day during these months; where the gas is sold for the other purposes, it may be said to be equally distributed over the whole year, and is burned on an average nine hours per day throughout the year (Sundays excepted), thus ceasing to be simply a season trade.

Recently Mr. Alderman Gibson, the chairman of the Manchester Corporation gas committee, said:—

"We are taking many hundreds a year out of the hands of the poor gas consumers and putting it into the pockets of large ratepayers who are rich and do not use gas at all. It is a monstrous robbery, but no one takes up that phase of the question at all; this clap-trap phrase of relieving the ratepayers is a popular term, but it is utterly at variance with the truth and utterly fallacious."

This is the opinion of a chairman of a gas committee who has had almost a lifetime's experience, but by municipal authorities this subject should be looked at from another point of view also—the success of a town is largely dependent upon the health of the people, and upon their comfort and happiness. It is therefore the duty of municipalities who are owners of gasworks to so reduce the price of gas for heating and power purposes as to make it within the reach of every household to adopt the use of gas. The allowing of a discount when sold for these purposes appears in the past to have been the great difficulty, inasmuch as it would entail considerable capitalisation upon the gas authorities, a duplicate set of pipes and a duplicate meter being necessary for each house; this difficulty, however, I am pleased to say need now no longer be taken into account, as fortunately there are means for registering the quantity of gas used in gasworks without having recourse to the cumbrous wet and dry gas meters.

The new registering device is not larger than an ordinary breakfast-cup, and can be fitted alongside the stove without in any way being obtrusive, in fact, it becomes practically a part of the stove Where adopted the whole of the supply for the premises will pass through the ordinary master meter and the usual pipes, and the registration for account purposes will be taken from this meter For the purpose of making a rebate on the amount of gas consumed by the stove the registration of what we may term the discount meter will be taken, and a certain amount be allowed upon each 1,000 feet that has passed through the same.

When the public have been fully educated and are alive to the advantages of gaseous fuel, we may look forward with confidence to the return of our atmosphere to that state of purity existing prior to the days when solid fuel began to be so recklessly burnt, and I have little hesitation in saying that greater profit will accrue to the country from the utilisation of the products of combustion than from any policy, fiscal or otherwise, that our country may adopt.

GLASGOW ARCHITECTURAL ASSOCIATION.

ON the 8th inst. Professor Charles Gourlay, B Sc, A.R.I.B.A., I.A., lecturer on architecture and building construction in the Glasgow and West of Scotland Technical College, delivered a lecture on "Athens and its Architecture" to the members of the Association, the vice-president, Mr. James Lochhead, A.R.I.B.A., being in the chair The lecturer gave the impressions he formed while studying architecture in Athens last year. Beginning with a general description of the beautiful situation of the city and of the Acropolis, he afterwards dealt with the lighting of the Parthenon, the peculiarity of position of the Panathenaic frieze on the Parthenon and the suitability of its design and execution for its position The Propylæa was next referred to as showing how much, due to its unfinished state, may be learnt regarding Greek methods of construction; the temple of Nike Apteros—the gem of the Acropolis; the Erechtheion, with its wonderful beauty of detail and the variations in its carving Then the buildings on the plain, including the Theseion, the Choragic Monument of Lysicrates, with its hexagonal plan; also the stelæ in the Ceramicus and in the National Museum The Olympeion and the Horologium of Andronicus Cyrrhestes as owing their existence to foreign patrons of the city. Then the work of the Roman period in Athens, as may be seen in the gate to the Agora, the monument of Philopappus, the arch and the library of Hadrian; the latter with its colour obtained by the use of different coloured marbles instead of by painting the marbles according to the ancient Greek practice The work of the Christian period was next referred to, particularly that to be found in the churches of St. Nicodemus, the Saints Theodore, the Kapnikarea and the small Metropolis. Lastly, modern work as exhibited in the Academy of Science, the University and the Library—all on the University Boulevard; also the modern Cathedral, the Royal Palace, the Observatory and the Zappeion. The lecture was illustrated by a large number of photographs and drawings, and by sketches drawn by the lecturer in Athens At the conclusion a very cordial vote of thanks was accorded the Professor for his interesting paper.

THE STREETS OF MELBOURNE.*

THAT there are a great many points to be considered in choosing the site of a city has been brought home to us lately in connection with our proposed Federal Capital. In the case of Melbourne accessibility from the sea and permanent water supply seem chiefly to have determined the choice of the early pioneers From the sea up to the present Queen's Bridge the Yarra was navigable. Above this a reef formed a natural barrier to the tidal flow of salt water, and gave within easy distance of the settlement an inexhaustible supply of fresh. The ground rose gently from river and sea (not too steeply for convenience of traffic), but with sufficient rise to give eminence for buildings and healthy heights for residences. On the whole, I think it has been a satisfactory choice—although in the light of our long experience perhaps not the site we would consider absolutely the best—for the capital of our State. Objection may be made to the considerable areas of low-lying land, difficult of drainage, which are in proximity to the city, and the exposure of the town to the north winds, untempered by any interposing stretch of water.

Some two years after the landing of the first settlers in August 1835, the place had grown to such importance as to necessitate its being properly surveyed and laid out on some definite plan. This was done by the Government surveyors, Messrs. Hoddle & Russell, at the instance of Sir Richard Bourke, Governor of N.S.W, who himself visited the young settlement. The area included in this plan was enclosed by Spencer Street and Spring Street, Flinders Street and Lonsdale Street, and was virtually the plan we now have of that block. It consisted of a rectangle divided by its intersecting streets into rectangular blocks. A fine breadth of 99 feet was given to the main streets, but want of foresight was shown in reducing the width of the secondary streets. These latter were originally intended as back entrances to the yards and gardens facing the main streets—a purpose which they have long ceased to serve. The plan adopted has the advantages of rectangular building blocks, simplicity and economy of space, but gives a monotonous and uninteresting appearance to the city. There are none of those odd corners and irregular spaces which suggest to public-spirited citizens donations of fountains and statuary. There are no oases of grass and flowers, trees and shade; no seats or restful places in soothing contrast to the bustle of the city. Everything is mathematically true and square The perspective lines of the streets run away into indefinite distances without break or satisfactory ending

The general trend of expert opinion on city planning is now against this gridiron plan as it is sometimes called. Points of interest, open areas, diagonal and curving roads are considered desirable in the city plan. Washington, planned like a wheel, Paris, a constellation of stars, Vienna, a central block containing most of the principal buildings encircled by park-like boulevards, are the types which have had most influence on recent city building in the old world. The gently-curving street gives in these plans varying angles of view of the buildings, breaks and sweeps pleasant to the eye, and changing perspective, light and shade. Diagonal streets give more direct communication between points, form angles in building sites which are opportunities for architectural treatment, give unobstructed sites for special buildings and statuary, and character to the whole city.

I have spoken of our city plan as being monotonous and without dominant features or irregular plots and open spaces. A remedy for this without departing from the original plan might have been found in the introduction of a fine central square surrounded by the public buildings of the city, well laid out and kept, with grass, trees, sculpture and architecture, in formal keeping with the monumental character of the surrounding buildings. Such a square would be the principal feature of the town, remaining deeply impressed on the mind of the absent citizen and passing stranger. There the shows and pageants of the city would take place; there the memorials to the bravery and usefulness of its citizens should be placed. There would be seats for the tired pedestrian and parcel-laden mother, where, to the splashing of the cool water and under the shade of the green leaves they would bless the city fathers for their forethought. It is rather curious that in a city where the heat is intense in summer so little prominence is given to the use of the fountain and water-basin as a decorative feature. In the heat of the sun nothing has the charm of the musical tinkle of water and the sparkle of the drops—a fact appreciated in all the bright cities of Southern Europe. The square or piazza, too, is such a common feature in the old world that the omission of it from our city is rather surprising. As a matter of fact, there were originally sufficiently large areas granted to public bodies and churches in the city to allow of ample space round the buildings, but the rent-producing capabilities of these blocks have caused the buildings to be crowded on as small a space as possible and the surplus land leased or sold.

Without open squares, it has been necessary to place a large proportion of our public buildings at the corners of streets, a position which does not lend itself to a broad and monumental treatment The setting of a building is so important that even the best of designs can be marred by crowding and surroundings. The front of Parliament House is a case in point. Viewed from the distance necessary to obtain a full view of it, the end pavilions are lost to sight behind the corner buildings of Bourke Street, and the cutting off of the strong horizontal lines by inferior buildings mars the effect of the front, which should have been set further back, or the Bourke Street corners acquired and laid out in keeping with the façade. As examples of buildings assisted by their placing and surrounding, look at the Exhibition Building, set in gardens and reflected in a foreground of water, and the Public Library with its broad green terraces and bronze statuary. It is to be noted in street architecture how a vertical treatment is more suitable to a crowded corner and restricted view than a horizontal. Gothic buildings and spires, such as Scots' Church and the Independent Church, Collins Street, are effective viewed from any angle, and vertical treatment, such as the angle of the Australian buildings, can be seen to advantage even through such narrow openings as Flinders Lane, whilst the strong horizontal lines of such buildings as the Equitable have the appearance of being shorn off by the opposite obstructing corner building.

I think that too often the architect designs his building in his office without sufficiently considering its position where it will be viewed from and what effect its surroundings will have on it, and—not least important—what effect it will have on its surroundings. It is not for the general good that some of the buildings in a block should completely overpower their more modest, and in many cases more refined, neighbours, and there should be sufficient *corps d'esprit* and regard for the appearance of the city amongst building owners and architects to prevent the erection of abnormal structures to the detriment of the whole block. Regulations as to the height of buildings should be enacted to prevent those very lofty erections which are a menace to health and street beauty. One never knows when they will be required. Objection may be taken to them on the ground of their conducing to too much uniformity of sky-line, but if intelligently drawn up and administered this objection would not hold. The position from which the buildings of a street block are to be viewed should be carefully considered In a 99-feet street, for a building, say, the height of the Exchange, it is necessary to stand some 200 feet down the street on the opposite side to allow the eye to grasp the whole area of the front at one glance At this angle (about 27 degs. with the frontage line) details are becoming compressed and indistinguishable unless kept simple; many tall fronts are so narrowed horizontally as to be lost to view when the eye is far enough away to take in the whole height. Turrets and flèches should be used sparingly; they are very effective on top of a rise in the sky-line of the street, but when used on low buildings or without consideration only make for confusion. In the Rialto, Wool Exchange and Olderfleet they lose their value through confusion of multiplicity, whilst admirable result is obtained in the Stock Exchange and Oxford Chambers, where they rise clear of the buildings. The spires of Scots' Church and the Independent Church carry out the same idea of drawing up the main masses to a definite point. Of corner turrets we have a great number, and although they give variety and accentuate the corners, they have a tendency to give the buildings they adorn an appearance of leaning outwards when seen on the angle. Another corner treatment, and one which has more apparent rest, is the wedge-shaped roof on the Freehold building; in conjunction with the opposite tower of the town hall it make a satisfactory combination. In fact, the whole group, including the town hall portico, the Old Court buildings and the Temperance and

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* A paper read by Mr. W. M. Campbell before the Royal Victorian Institute of Architects.

General Assurance Company's block, form about the most attractive piece of street grouping in Melbourne. This is principally due to the break in the frontage line formed by the setting back of the town hall and Old Courts, giving the opportunity for the town hall portico and also the broad and simple architecture of the Old Courts, enhancing the richer architecture of the town hall building and the picturesque rococo of the Assurance Company. The removal of the Old Court building, several times threatened, would be an artistic loss to this group.

There is a general want of horizontal and simple treatment in our city blocks, due, for the most part, to narrow frontages. A vertical treatment may be suitable to our corners, but the filling-in should have an excess of horizontal lines and plain wall-spaces. Had stone been plentiful and cheaper, our style would probably have been simpler. With cement-stucco it costs little more to load designs with elaborate ornament than to build plain wall-surfaces, and the tendency has been to follow the former course. Plain painted stucco, when not overloaded with ornament, is satisfactory enough in effect, although it does not give the variety of colour and texture which stone gives. It is rather a curious fact that a building owner will spend a great deal of money on the decoration of his front wall, and immediately proceed to disfigure his much more prominent side wall with some abnormal advertisement. He not only destroys the appearance of his own building, but creates an eyesore detrimental to the appearance of the whole neighbourhood. In many towns there are regulations to prevent this, and wing walls are made architectural, or at any rate inoffensive.

The approaches to a city, with which must be classed the railway stations, are of as much importance to its beauty as any other portions. These, the railway stations, are virtually the gates of the city, and, emerging from their doorways, strangers and visitors to the town get their first and lasting impressions, which should be of spaciousness and dignity, not crowd, noise and dirt. The entrance to Melbourne by the proposed new Flinders Street station would be greatly enhanced if the buildings were retired some 30 feet from the Swanston Street building line, and the space grassed and planted. Should this be impossible, a corner reserved out of ground occupied by the present Prince's Bridge station, ornamentally treated, would be an immense improvement as viewed from the station entrance. Some treatment similar should be adopted when the Spencer Street station is rebuilt. I think the railways owe something to the town in the way of reparation for destruction of beauty. They draw a disfiguring line of blackened rails and disreputable sheds across the middle of the fine view we have of the Botanical Gardens and river from Flinders Street, and they cut off the chance of an ornamental river embankment between Prince's Bridge and the Queen's Bridge, and so should give something in return. The approaches by road, too, should be treated with dignity and spaciousness. We have this in most of the main road approaches, such as St. Kilda Road, Sydney Road, Victoria Parade, which are of fine width, and give opportunities for planting continuous strips of grass and trees (parking, as it is called) along the roads. It would have been a great boon if one or two of these had been carried right through the city itself. In this treatment of city roads, and in all city planting, it is important to keep rigidly to formalism. The trees should be in lines and of similar growth and species, the grass close-shaven and the forms geometric. The rustic stonework, irregularity of growth of heterogeneous shrubs and ragged bamboos which skirt St. Kilda Road approaches to Prince's Bridge, are disturbing, and detract from the breadth and simplicity which dignify the wide sweep of road and bridge. A city is the handiwork of man, and even where vegetable growth is utilised in its adornment it should show distinct evidence of the controlling hand. In close proximity to important constructional and monumental architecture, miscellaneous planting and rockeries are out of place.

Of late there has been a good deal of discussion as to the best site for the Queen's Memorial. To my mind, without posing as an authority, the site near the Immigrants' Home is much inferior to one in proximity to Parliament House. The former site appears to me too much out of touch with the city, and generally what one might call too rural. It is quite legitimate to use unimportant statuary and grotesques in garden adornment, as in Fitzroy Gardens, but important works of art seem best placed when in proximity to important architectural works—distant enough to be distinct conceptions, but near enough to be viewed in conjunction with the larger masses. I might mention the Gordon Statue, near the Treasury, the statuary in front of the Public Library, and the Ormond Statue at the Working Men's College as examples of satisfactory placing. Besides the street trees, which have become a great feature of every modern city, little has been done here to introduce the charm of flower and leaf into the city itself. In London, in spring and summer the façades of some of the streets are a mosaic of colour from the carefully-tended window-boxes, glowing with masses of blossoms. Firms make a regular business of keeping these boxes bright with a rotation of blooms. In Boston, the Virginia creeper throws a curtain of tender green in summer and burning crimson and gold in autumn over bare and unsightly walls right in the city itself. In Melbourne window-gardening has not advanced very far, although occasionally one sees an odd patch of brilliance. With the number of people now living in town buildings, one would expect more evidence of the flower-lover. As to the formal tubs of the Italian, what place could be more fitting than the front of Parliament House, breaking the hard and arid lines of steps, or the Treasury steps, assisting the graceful architecture of that building?

The city, although devoid of planted areas, is richly dowered with a belt of parks and gardens, selected, laid out and kept in a manner that any city would be proud of. The selection of the site of the Botanical Gardens, and the future possibilities, in conjunction with the Yarra, of making a park of great beauty, should be matters of congratulation to us, as well as the possession of such a mine of beauty as the Fitzroy Gardens. Outside this circle, the spread of the suburbs has made more reserves needful, and the suburban councils are beginning to wake up to the fact that if areas for parks and gardens are not obtained now, great difficulty will be experienced in the future in preventing overcrowding. In the closely-populated suburbs, such as Collingwood and Richmond, allotments might be reserved, at small expense, for children's playgrounds, where, if only a few cartloads of sand, and perhaps a shallow pool, were provided, a great source of happiness would be created where it is most needed. Something of this sort was suggested in one of the daily papers, and I believe a paper on the subject was read at the Austral Salon.

I conclude this short paper, little more than suggestive, hoping there are some points which may be of use and interest to you. I have attempted to draw your attention to the design of the city as a whole, rather than of the buildings individually, and to remind you that in the moulding of this growing city you wield a strong influence. Between those who have the control of the city in their hands, those who are entrusted with the deciding of matters of taste and design and this Institute, there should be, and I hope there are, the strongest ties of similar interests, and the common bond of doing the best for city and fellow-citizens.

SCOTTISH ART INSTITUTIONS.

THE Scottish Arts Club, of Edinburgh, which is composed partly of members actually engaged in the professions of painting, sculpture, architecture, education, literature and music, and partly of members interested in those arts although not practising them professionally, has forwarded to Mr. Graham Murray, the Secretary of State for Scotland, a memorial expressing a hope that the Government will take early steps to give effect to the recommendations of the departmental committee appointed by the Treasury to consider the constitution and management of the Board of Manufactures. A number of suggestions are added, the adoption of which, the Club submits, would enhance the value of the committee's scheme. In the opinion of the Club a system of rotation in the retirement of members of the Board should be introduced for the purpose of securing continuity of policy; the chairman should be appointed annually; the salaries of the Scottish National Galleries staff and the upkeep of the buildings should be paid by the Imperial Exchequer, as are those of the National Galleries in London and Dublin; an annual grant of at least 1,000*l.* for the purchase of works of art (unfettered by any condition as to an equivalent amount being subscribed by private liberality) should be made by Parliament, on the distinct understanding that where such grant is not expended at once it should remain to the credit of the Board of Trustees for subsequent use in the purchase of works of art; the new National Gallery should be erected solely from Imperial funds, and should be so situated (on the Calton Hill for preference) that, in the event of necessity for more extended accommodation in years to come, the site would be one that admitted of such extension; no part of the accumulated funds of the Board of Manufactures should be applied to the cost of the new National Gallery; the annuity of 2,000*l.* payable under the Treaty of Union should be transferred finally from the Estimates to the Consolidated Fund; the grants in aid of the Scottish National Gallery, National Portrait Gallery, Museum of Antiquities and the Royal Scottish Academy should be charged upon the Estimates, and Parliament should be asked forthwith to vote a substantial sum as fair compensation for the loss which Scottish art has sustained through the misunderstanding between the Treasury and the Board of Manufactures, this sum being made at once available for the purchase of works of art.

THE ROMAN FORUM.

THE Rome correspondent of the *Times*, writing on the 10th inst., says :—

This morning Commendatore Boni, in the presence of the Syndic of Rome and others, made a discovery in the Forum of exceptional importance by laying bare the foundation-stone of the equestrian statue of Domitian. This stone, a travertine block of about a yard square, was situated in the centre of the east side of the huge concrete base of the statue discovered early last autumn. When the travertine slab which served as a cover was lifted, a square chamber in the lower block was discovered containing five terra-cotta vases, one of considerable size. Two were red in colour, and the remaining three were *bucchero*, with the modelling and engraved lines that are usual ; and all five were of the type which has hitherto been considered of extreme antiquity. The fact that the concrete base in which the stone was found set cuts across one of the Cæsarian underground passages makes it impossible that this find is a remnant of the prehistoric period, or indeed that it can be other than a deposit made at the time of the erection of the equestrian statue. Hence it is evident that the manufacture of the primitive black ware known as *bucchero* was continued for ritual use to a late historic time, and that the early dates hitherto commonly assigned to antiquities on account of the presence of *bucchero* in their vicinity will have to be carefully reconsidered. Owing to the infiltration of water and mud, the chamber containing the vases has not yet been perfectly cleaned, but pieces of charcoal, together with a piece of crude gold and of iron, which were found in the large vase, suggest the dedicatory rite of the monument. The interest of the discovery lies in the character of the deposit and the doubt which it reflects on current theories as to the dates of Italian pottery.

OXFORD PORTRAITS.

ABOUT two years ago a proposal was mooted to hold in Oxford an exhibition, to be followed, if successful, by other exhibitions, of historical portraits in the possession of the University, the colleges and the city of Oxford. In such an exhibition might be included also, it was suggested, a collection of maps, plans and views, illustrating the topography and architecture of the city. An experiment of the kind tried at Cambridge a few years ago led to valuable results. Portraits unknown or misdescribed were identified ; artists' names, wrongly assigned, were corrected ; dates verified, and new light thrown on the previous history of the works exhibited. A consultative committee has now been formed, of which the President of Magdalen is chairman, and it is proposed to hold a first exhibition in 1904, consisting of the portraits of persons who died not later than 1625. The curators of the schools have kindly granted the use of the East Writing School for this purpose during the Easter Vacation and the first five weeks of the summer term of 1904, and the first exhibition may be expected to consist of somewhat over 100 portraits. The preparations are already well advanced, and it is hoped to open the exhibition on April 13.

TESSERÆ.

Jan Steen.

OF all the Dutch painters of familiar life, Jan Steen is acknowledged to be the greatest genius. The humour and whim in his compositions disclose to us a mind quite distinct from the rest, and the love of childhood displayed in his works shows that with all his eccentricities there was something good in his nature ; and, indeed, unless that be the case, it is doubtful whether the power of any artist, whatever be his genius, could interest us deeply. No other painter combines such completion of finish at so apparently small an expense of labour as Jan Steen in his best pictures. But haste, perhaps occasioned by his necessities towards the close of his life, made him throw off works which, though they might have made the reputation of other men, are scarcely worthy of him. His pictures have, more than those of most painters, an apparent artlessness of contrivance—the result not of ignorance but of that originality which, disregarding common rules, works out its purposes by methods of its own, and yet faultlessly. Jan Steen seems, indeed, from the unmistakable evidences of rapidity his works present, to have had the whole of his art not only always present in his mind, but at his finger's ends. He seems to have painted as quickly and as surely as Shakespeare is said to have written. Others have no doubt equalled him in this, but who with such results ?—excepting only a still greater genius, Rubens. Slight in execution as are some of his late works, there are early pictures by him as highly finished as the most elaborate of Gerard Douw, and with a much finer taste. The excellence of his colour has been pointed out by Reynolds, but there is one point in which he as well as the other Dutch painters are the best possible guides. Mr. Ruskin has noticed that "modern painters in general have not a proper sense of the value of dirt. Cottage children never appear but in freshly got-up caps and aprons, and white-handed beggars excite compassion in unexceptional rags" It is very easy to make everything look dirty, but there are styles of bad colouring that cannot avoid doing so, and in which Venus herself, rising from the sea, will seem to stand in need of washing. But it is no paradox to say that even dirt should not be painted to look dirty, and that is exactly what colourists like Jan Steen understood. Hence their pictures, even when their subjects are from the lowest condition of humanity, are not in respect of colour repulsive, however so in their incidents ; but, without anything of that clean look in the dresses, persons and furniture of their pictures that would be out of character, and also without the monotony or wretchedness of dirty colour, their negative hues, which fill their largest masses, are here and there contrasted by small portions of red, orange or other bright colours, that so surrounded glow like gems.

Photography and Art.

When the experiment of converting the sun into a portrait-painter first became a fact, the result was considered as a death-dealing blow to thousands who lived by the exercise of the limner's art ; and the manifest failures which only left a general or a partial resemblance, but not the *vera effigies* behind, were looked on as obstacles to complete success which time and study would soon remove. Thought was expended and practical efforts were multiplied, and still the natural agency fell short of the artistic. Vast improvements were, doubtless, made ; colour was superadded to form and expression ; but the conviction remained that, as far as portraiture is concerned, the contest must be given up. The sun's rays are no match for the painter's palette ; or, what is more to the purpose in portrait painting, external fidelity—though photography is not altogether faithful—failed to compensate for the absence of the ideal. However admirable and unquestionable the uses of photography for representing outlines and unyielding surfaces, it fails to attain its end where—as in the eye—the object shrinks from the too searching light, or where—as in the complexion—the colour is neutralised or perverted. To the many, for whom costly memorials must be things denied, photography is a boon ; but the artist still remains as something better for those who can afford to pay him. Photography then turned for her best successes to the domain of Claude and Wilson and Turner, Canaletti and Roberts and Prout—to landscape-painting and architectural delineation. The new invention had here a better prospect of conquest, and achieved it ; not in rivalling the great colourists—for colour is its great stumbling-block—but in presenting perfect transcripts of whatever is most positive in form. It failed to overcome the difficulty of *chiar-oscuro*, or to produce transparency ; but for accuracy of outline, for the minutest fidelity of detail, for perspective the most unerring it demonstrated unequalled powers. Herein consists the great merit of photography, under whatever aspect it presents itself. Impressive objects, such as the folds of drapery, the sharp outlines of buildings, the forms of inanimate substances, previous drawings, anything, in short, that will stand still to be copied—these declare its most useful purposes. Photography is the handmaiden of that art whose master is the mind—a teacher herself, but subject to control.

Uriconium.

The ruins of Uriconium are interesting chiefly as illustrating the social life and the state of art in a remote provincial town of the Roman Empire. We have here nothing magnificent and little that is costly. The personal ornaments found are of inferior material, and the vessels for home use are of a very simple kind. The real glory of the place is the masonry, in which the mortar has become harder almost than the stones embedded in it. The houses were covered partly with tiles and partly with heavy sandstone flags arranged lozenge-wise with excellent effect. The pavements of Uriconium were probably larger than any which have been found in other parts of Britain. They exhibit no forms of animals, but, as is usual, they are made up of small tessellæ (which Mr. Anderson, to adopt his own phrase, always "alludes to" as tesselæ) scarcely an inch square, put together with infinite labour. These squares are of different colours, the green ones being obtained from stone found at the foot of the Wrekin and the rest probably imported. The fragments of shafts, bases and capitals recovered from the ruins show that some of the buildings of this city were not insignificant. Some of the capitals are perfectly plain, and one of this kind has been scooped out and used for ages past as the font in the church of Wroxeter ; others are foliated, some being fair specimens of the incipient Byzantine Romanesque. The mural paintings, as compared with some found on the walls of Roman houses in London, are poor, the patterns being chiefly stripes, with lozenges or other geometrical figures. Some vessels of Samian ware, made probably on the spot, are graceful both in shape and ornamentation, and of the lamps and other utensils found there is not one which is not thoroughly adapted to its purpose. The glass jugs and vases call for no special notice, but the fact is more interesting that Uriconium had at least some glazed windows. The assertion of Bede that the use of glass windows was first introduced into England by Abbot Benedict must be taken simply as evidence that no Roman glazed windows were known to be preserved in the seventh century.

Greek "Priming."

The ancients made use of different colours for the priming of their pictures, as we see in some of the ancient paintings, and as we are also informed by Pliny. He states that the ancients primed their pictures with sandix (factitious red lead), and then laid on the purpurissum, or purple red colour mixed with the white of egg, by which means it acquired the brilliancy of vermilion. If they wished to obtain a purple they made the priming coat of ultramarine, and then covered it with the purpurissum or purple red, mixed with the white of egg. Protogenes adopted another mode with his *Ialysus*, on which he worked seven years. On this picture he is said to have laid four coats of colour, for the purpose of protecting it against the ravages of time.

RUSKIN EXHIBITION.

THE private view of this exhibition, which is to be held in the City Art Gallery, Manchester, is fixed for Tuesday next. On the following day there will be a formal opening ceremony, and on the next day, Thursday, the exhibition will be open to the public. It is the most comprehensive illustration of Ruskin's artwork and influence that has ever been given. It includes a representative collection of his own drawings, both of landscape and architecture, with which are linked examples of the work of the artists by whom he was most influenced in his early years. Another section of the exhibition contains works by the artists in praise of whom chiefly he wrote, including copies of works of the Florentine and Venetian masters and others, a fine collection of Turner's water-colour drawings, and examples of the early work of Holman Hunt, Millais, Rossetti and Burne-Jones. A third section includes drawings by his pupils and other artists whom he influenced, and, lastly, there are numerous portraits, manuscripts, letters and copies of various editions of his works.

GENERAL.

Knepp Castle, Sussex, which was almost destroyed by fire in January last, is about to be rebuilt for Sir M. Burrell, Bart. The contract has been given to Messrs Longley, Crawley. The outer walls, with their castellated towers, will be preserved as much as possible.

The Lecky Memorial Committee are carrying out the public resolution—"That the most suitable form which a public memorial to the late Mr. Lecky could take would be a bronze statue by an eminent artist, to be erected on some site within the precincts of Trinity College, Dublin, provided that the sanction of the Board be obtained, and that the necessary funds can be raised." The sum of 1,500*l.* will be required.

Mr. Alfred Lyttelton, M.P., the arbitrator, has decided that the amount of compensation to be paid by the London County Council to the Greenwich Pier Company for loss of profits by the cessation of the ferry, consequent upon the opening of the subway at Greenwich, is 34,342*l.* 10*s.*

The Historical Picture of the inauguration of the first Federal Parliament in Melbourne by the Prince of Wales by an Australian artist, Mr. T. Roberts, has been completed. The work will be offered to the King on behalf of Federated Australia.

Mr. Peter Paul Pugin succumbed to lung disease at Brighton on the 10th inst. He was a member of a family in which architectural skill was hereditary. Like his father and brother, his practice consisted mainly in the designing of Roman Catholic churches.

Sir William Church (President of the Royal College of Physicians) at the annual meeting of the National Association for the Prevention of Consumption, advocated for sanatoria inexpensive buildings, and expressed the opinion that the Association should be consulted as to the construction and sites of such institutions.

The Scaffolding has been at length removed from the church of Saint Eustache in Paris. Many of the elderly inhabitants of the district cannot recall the time when it was first erected. But as the building required almost continuous reparation, there was economy in keeping the timbers together.

Mr. Roland Plumbe will act as assessor in the limited competition for the new King's College Hospital, which is to be erected at Denmark Hill on a site offered by Mr. W. F. D. Smith, M.P.

A Meeting of the Royal Scottish Academy was held on Wednesday, when the following were elected associates:—Mr. Campbell Mitchell, Edinburgh, landscape-painter; Mr D. Y. Cameron, Kippen, Stirlingshire, etcher and painter in oil and water-colour; and Mr. Robert Brough, London, portrait-painter.

Mr. E. P. Warren, at the last meeting of the Society of Antiquaries, described some antiquities found during excavations in Great College Street, Westminster. The most important was part of a twisted column from the tomb of Henry III. in the Abbey. It had probably been carried off at the Dissolution for the sake of the gold mosaic with which it was adorned.

M. Carolus Duran, the French portrait painter, has been elected a member of the Académie des Beaux-Arts, in succession to the late M. Gérôme.

Mr. C. J. Galloway, the mechanical engineer, and formerly a member of the firm of Messrs. W. and J. Galloway & Sons, Manchester, died suddenly on Monday at his residence near Knutsford. One of his works was the viaduct across the Ulverston Sands in connection with the Furness Railway. He was connected with several international exhibitions. He was a patron of art, and was the original possessor of *The Roll Call* and *Quatre Bras*.

A New Church has been erected in Southsea for the benefit of Roman Catholics. It was designed by Mr. C. W. Bevis, a local architect. The stonework throughout is from the Ham Hill quarries.

The Town Hall of Neuilly is being decorated by a number of artists living in the district, including MM. Chartran, Dagnan-Bouveret, &c. A Friendly Union of the Artists of Neuilly, comprising 150 painters, sculptors, architects, musicians, singers, actors and littérateurs, are organising a soirée for April 23. In the spring an exhibition of work by the painters, sculptors and architects will take place.

Messrs P. & W. Maclellan, Ltd., have been able to declare a dividend of 6 per cent. on the ordinary shares. The directors have made a further transfer of 13,000*l.* from the depreciation account, and have applied it in reduction of the value of the fixed plant and machinery, leaving a balance at the credit of the depreciation account of 7,500*l.*, inclusive of the amount transferred from this year's profits.

Mr. Frank Brangwyn, A.R.A., has been elected a Fellow of the Royal Society of Painter-Etchers and Engravers.

Messrs. Pearson & Son have undertaken to construct the tunnels under the Hudson River for the Pennsylvania Railroad Company.

A Building Site in Shaftesbury Avenue, having an area of 23,406 square feet, has been let on a building lease for eighty years at a rental of 7,300*l.* The property belongs to Christ's Hospital.

The Drapers' Company, London, have promised to contribute a further sum of 5,500*l.* towards the building fund of the University College of South Wales and Monmouthshire, Cardiff, in addition to the 10,000*l.* previously promised. The building fund now amounts to 65,000*l.*

The Scottish Board of Manufactures have again granted the use of the Royal Scottish Academy National Galleries to the Society of Scottish Artists for this year. The sales of pictures from the exhibition of 1903 amounted to 648*l.* 7*s.*

Messrs. Graham, Morton & Co., Ltd., of Hunslet, Leeds, have been successful in obtaining the contract for the forty-seven bridges required for the Bengal and North-Western Railway of India. Two hundred and sixty-five girders will be required, and they are to be produced within fourteen weeks—an engineering feat that is without precedent.

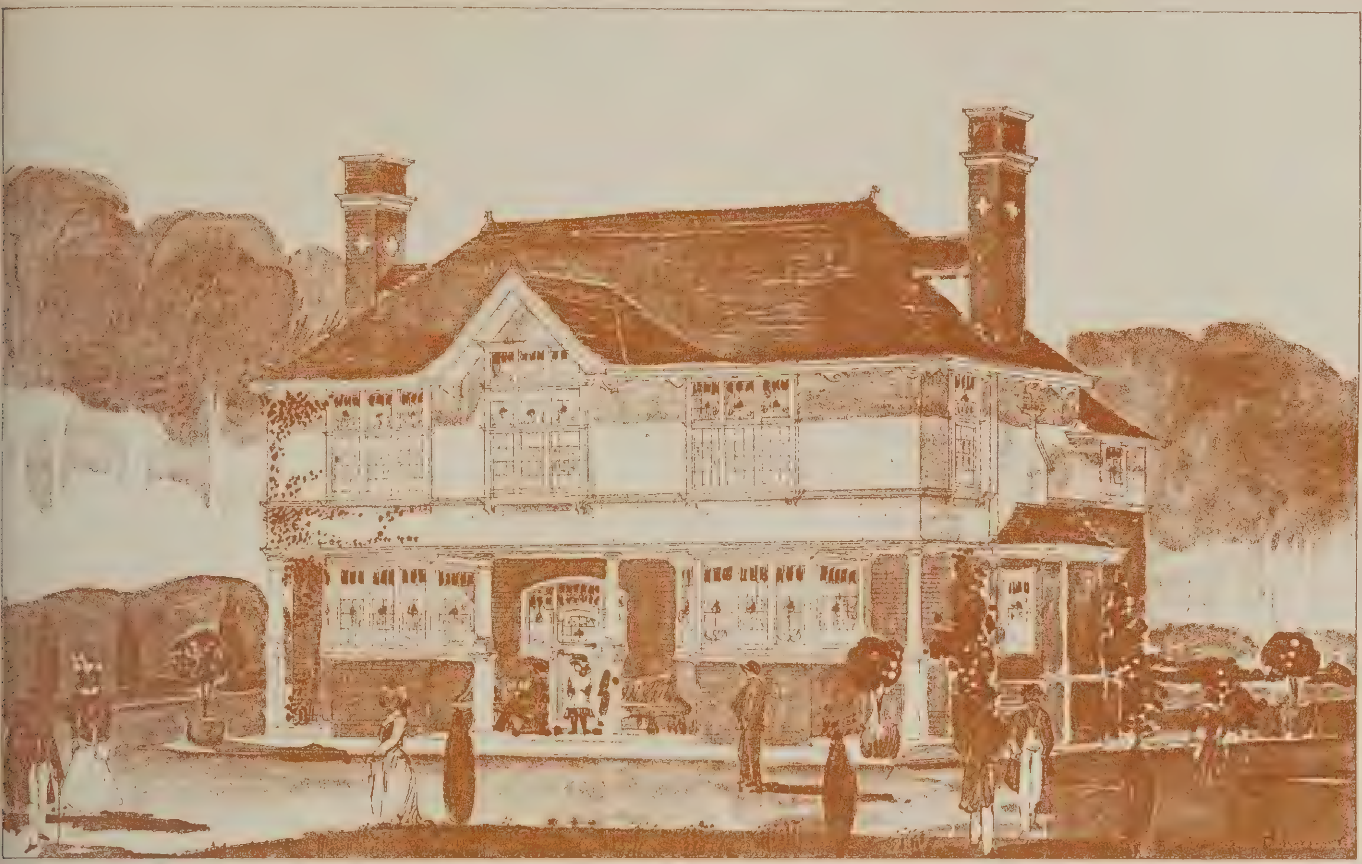
The Greek Play which will be performed by students of Bradfield College on five days in June is the "Alcestis" of Euripides. The instruments used will be harps of ancient model and scales, and the flutes have been copied from those found at Pompeii. All the other conditions of Greek art will be observed.

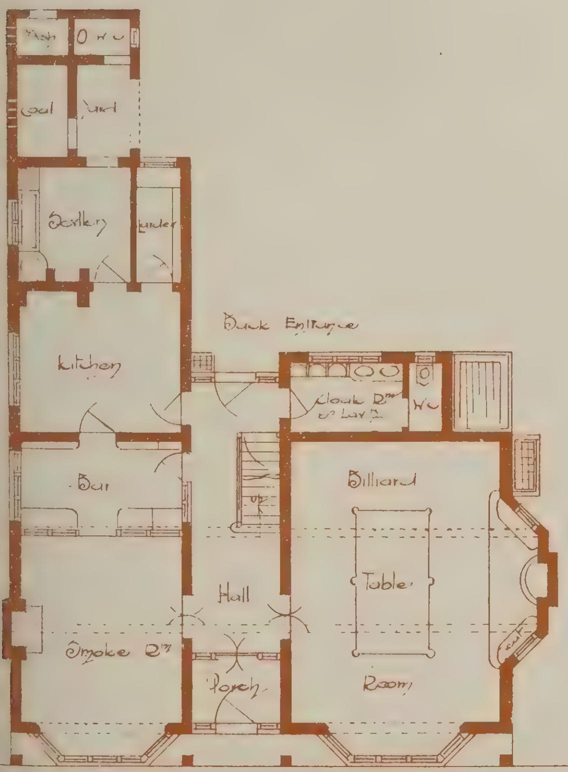
Mr. Robert Davies, Bangor, has sent 1,000*l.* to the new buildings fund of the University College of North Wales, Bangor. The sum of 175,000*l.* is required, of which about 70,000*l.* has already been subscribed.

The Egyptian Government have not at present considered any proposal for making alterations in the Assouan dam. Up to the end of last year about 170,000 acres of land had been brought under perennial irrigation as a result of the construction of the dams at Assouan and Assiout.

At the Annual Meeting of the Royal Birmingham Society of Artists held at the Gallery, New Street, Birmingham, on the 12th inst., Mr. Val C. Prinsep, R.A., was re-elected president for the ensuing year. Mr. Wellesley Cottrell, landscape-painter, was elected an associate. All the officers and professors were re-elected.

The Architect, March 18th 1904.





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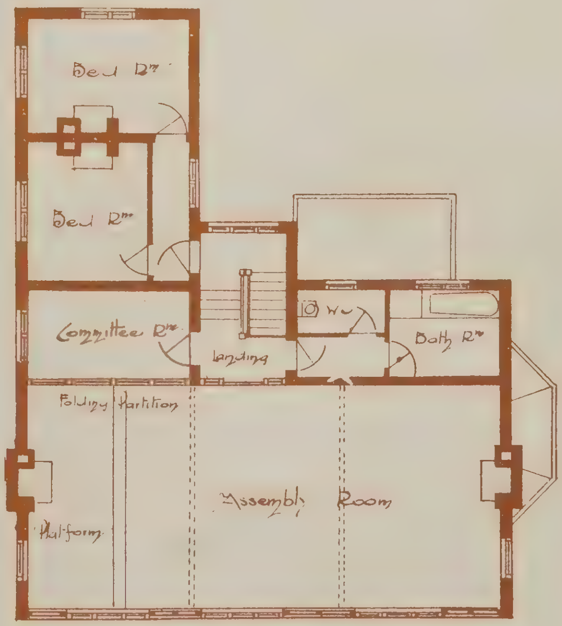

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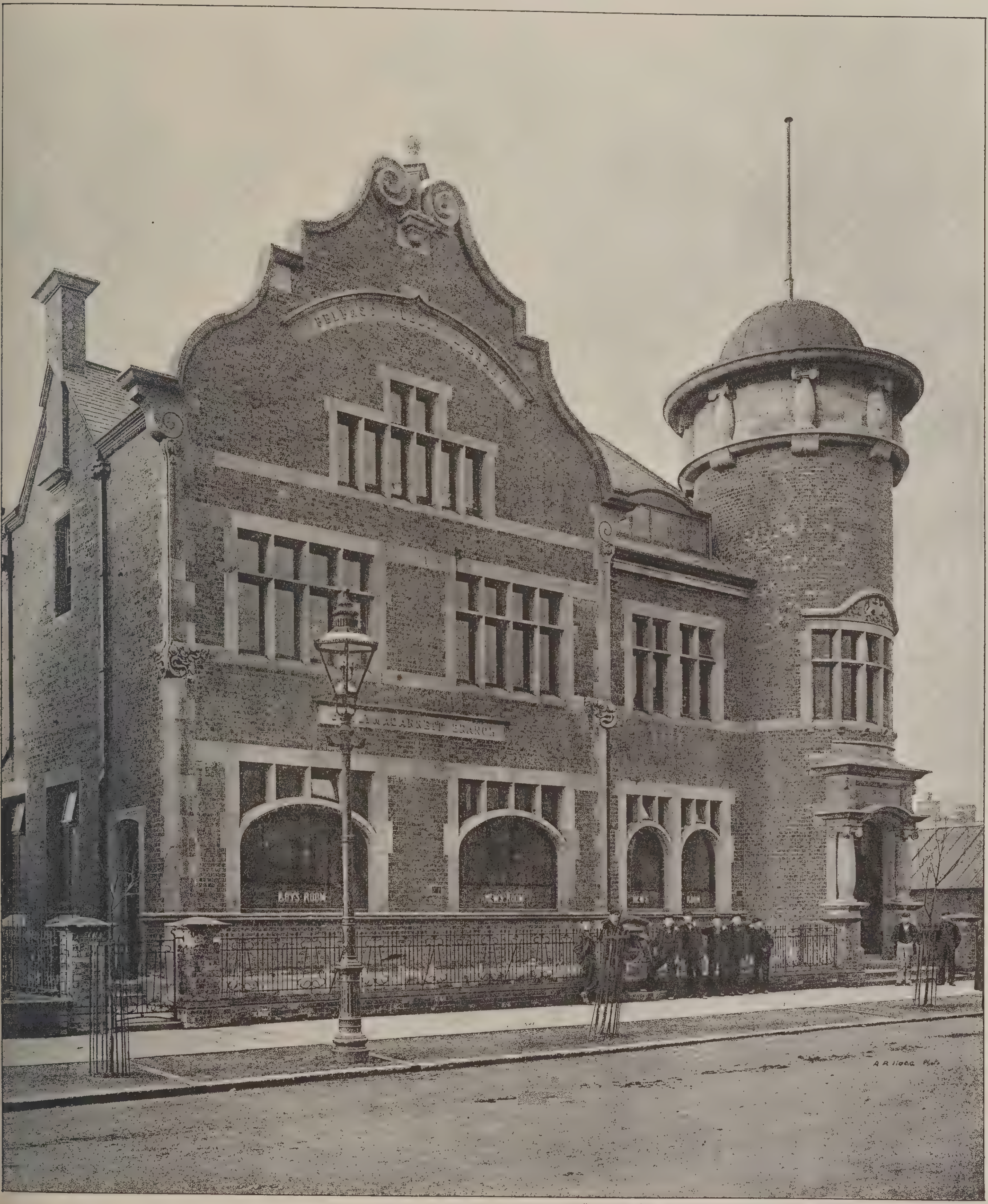

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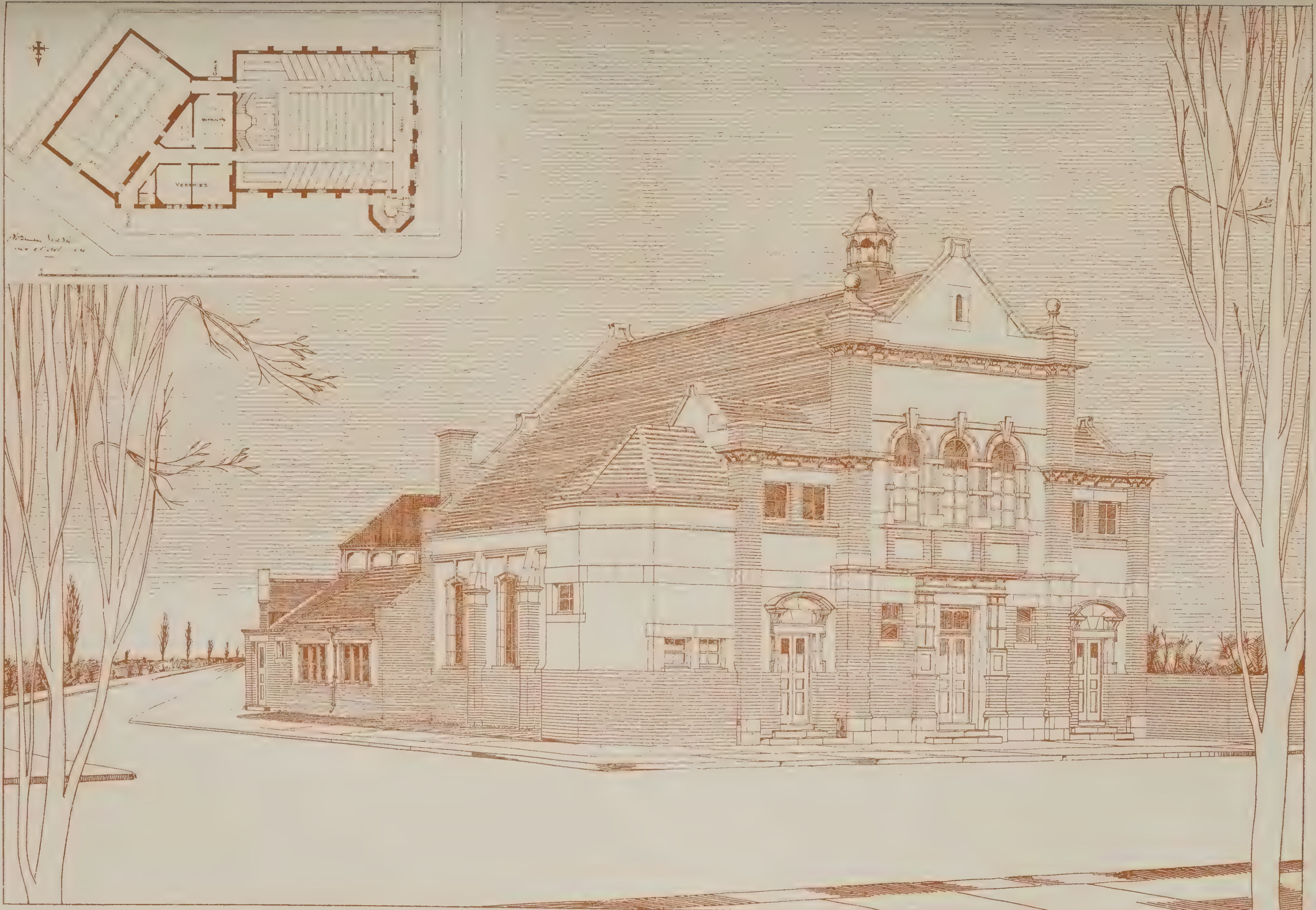

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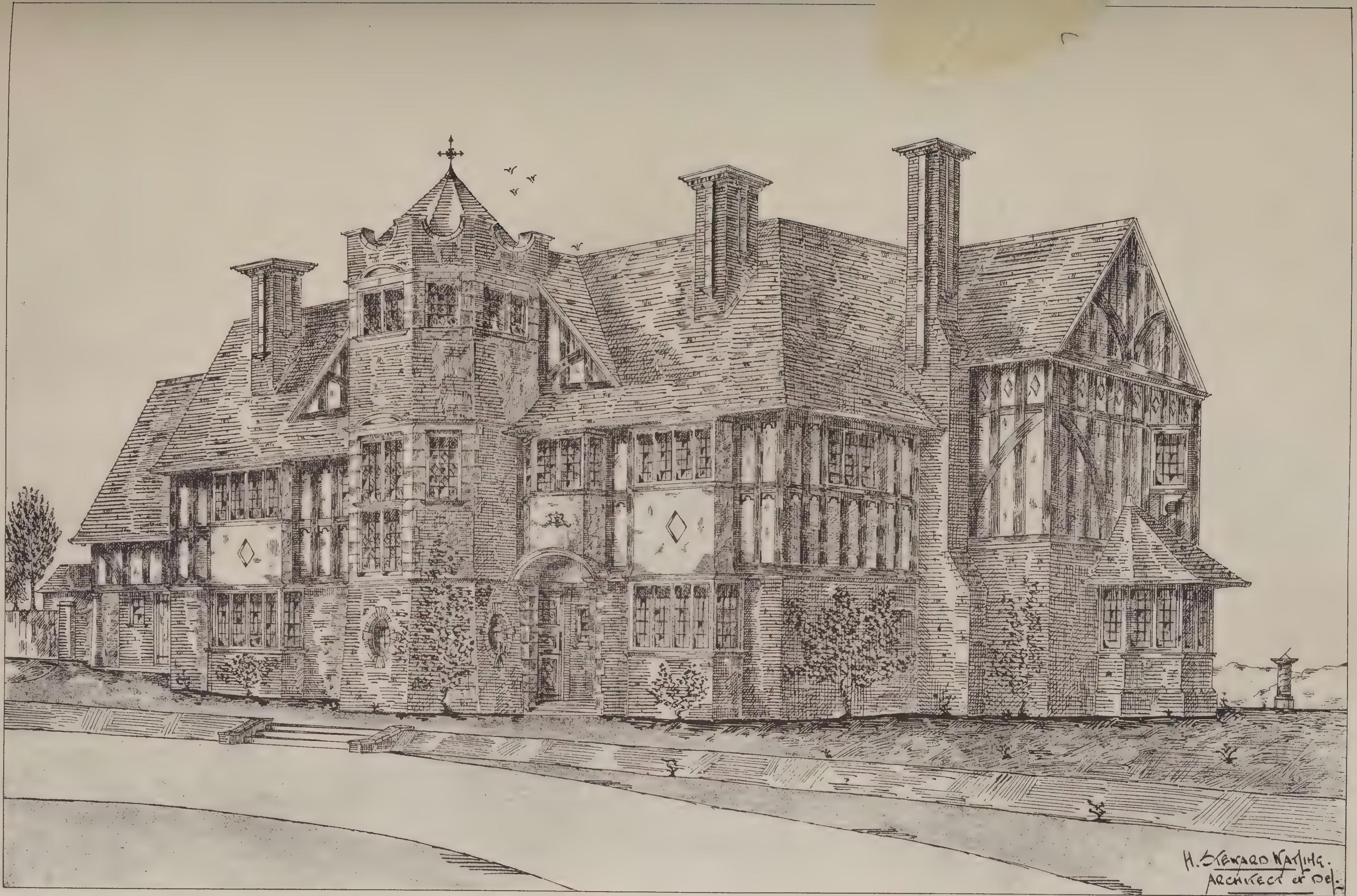
H. Steward Watling.
Architect et Del.

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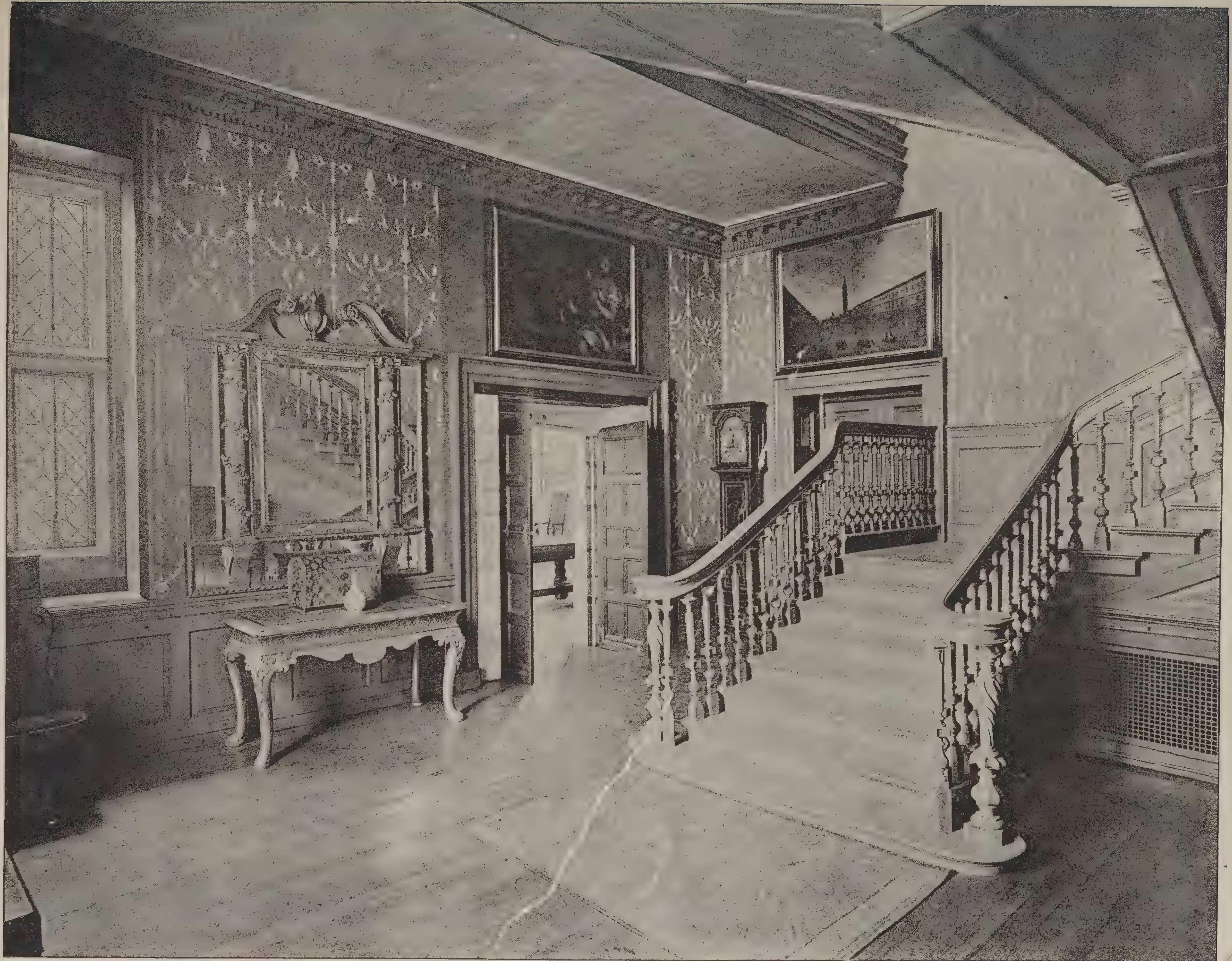

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(The Residence of Mr. Frank Green.)

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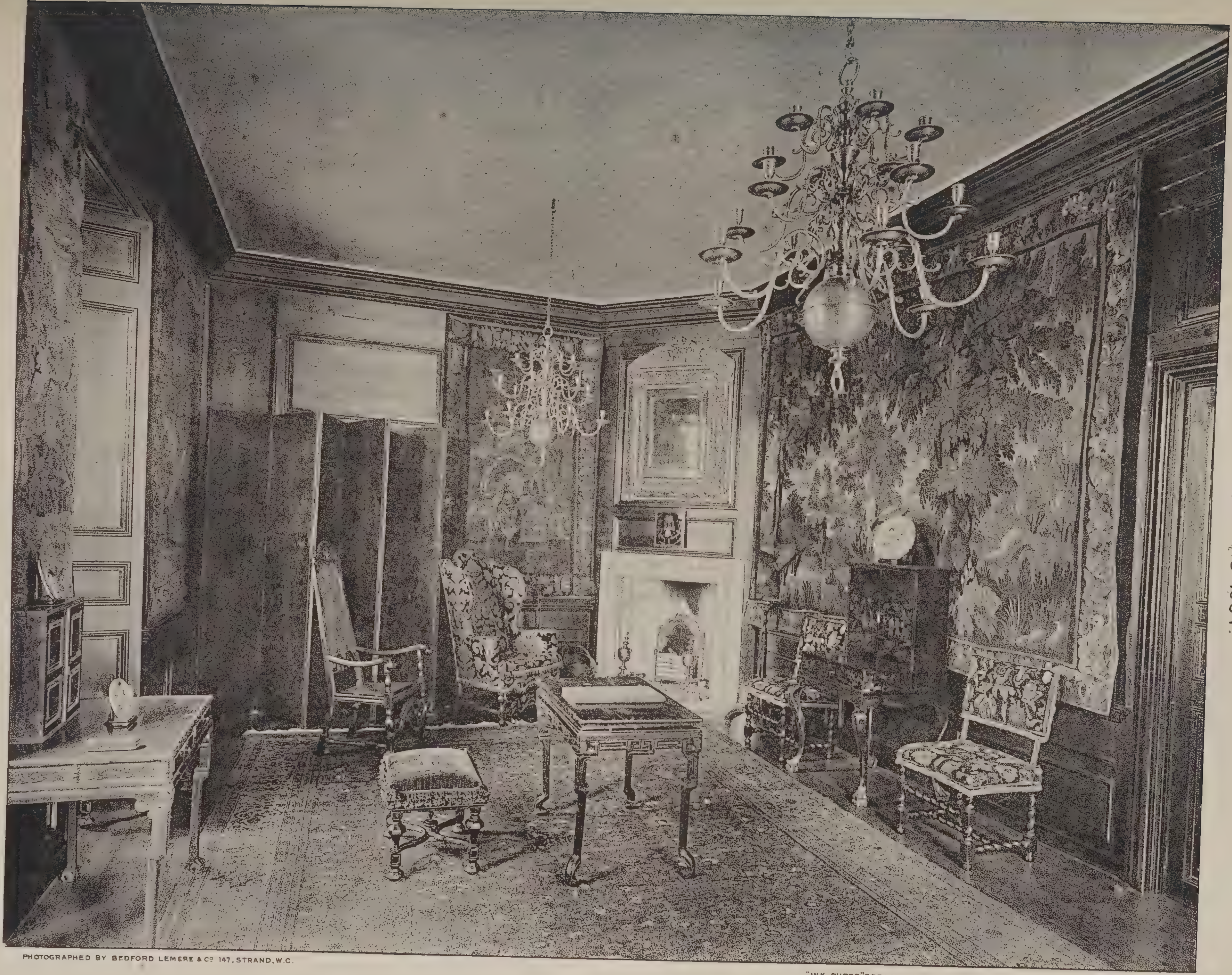

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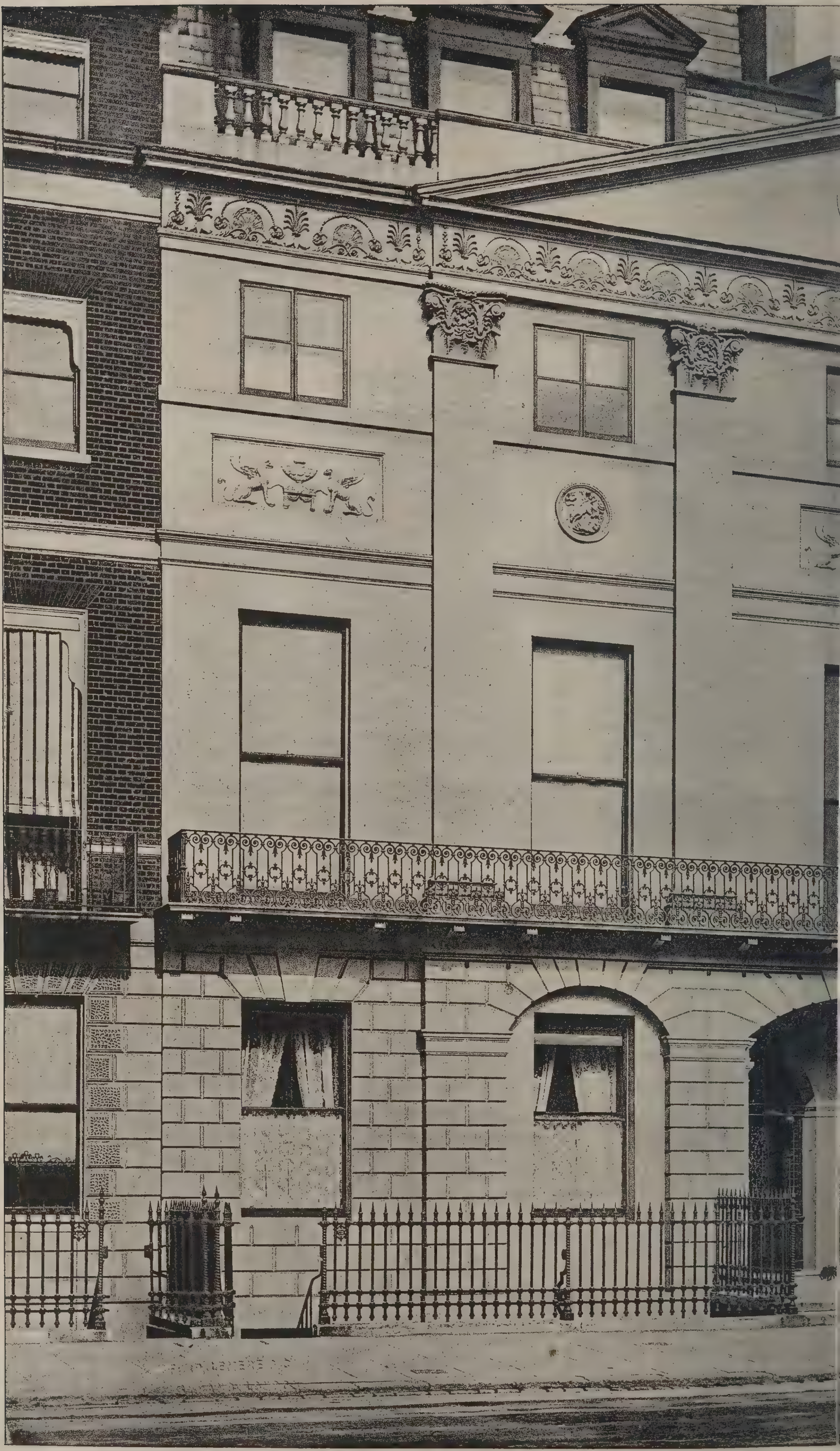

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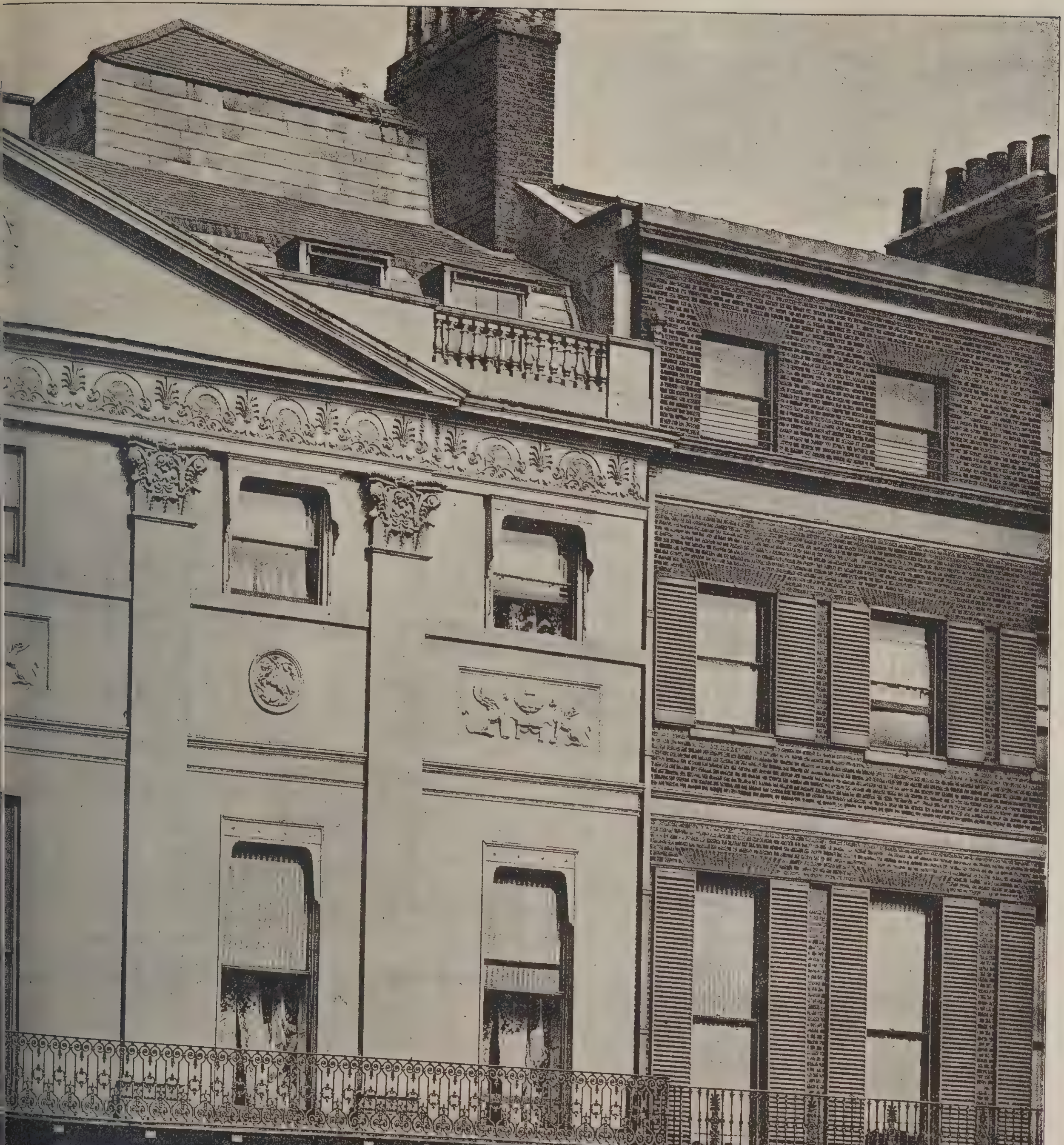

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ND PLACE, W.

Architect.

The Architect.

THE WEEK.

The subjects and conditions of the prizes and studentships to be awarded by the Royal Institute of British Architects for 1905 have been announced. The essay is to treat of "The Development of Architectural Art from Structural Requirements and Nature of Materials." Several subjects in England, Scotland, Ireland and Wales are suggested for measured drawings. Those in London are St. Alphege, Greenwich; St. George's, Hanover Square; the Confessor's Shrine and the Tomb of Edward III., Westminster Abbey; All Hallows, Barking; the West Portico of St. Paul's Cathedral; the Wellington Monument, St. Paul's Cathedral; St. Mary-le-Strand. The Soane Medallion will be awarded for the best "Design for a Royal Palace" on an open level site. The building is to be about 250 feet from north to south, and about 180 feet from east to west, with a central courtyard; on the west side is a garden 20 feet below the level of the site, approached by terraces and steps. For the Pugin Studentship will be required as usual a selection of drawings relating to Mediæval work, English or Foreign. Practical working drawings or other evidence of special practical knowledge will have to be submitted by competitors for the Godwin Bursary. Drawings of ornament and coloured decoration from existing buildings and examples like those in the South Kensington Museum are necessary in the competition for the Owen Jones Studentship. The Tite Prize will be awarded for the best "Design, according to the Principles of Palladio, Vignola, Wren, or Chambers, for a hotel lounge and staircase." The lounge to be about 3 000 feet in area, and the staircase about 1,000 feet. The height of the lounge is not to exceed 35 feet from floor to ceiling. For the Grissell Prize the subject is a "Design for a Winter Garden in Iron and Glass," covering an area of not more than 3,600 feet, with a dome, not necessarily circular, in the centre, the diameter of the dome being rom 30 to 40 feet. The building may be raised on a stone plinth. For the Arthur Cates Prize will be required a election from the "Testimonies of Study" of the candidate, nd not less than three sheets of subjects of Classical or Renaissance and of Mediæval architecture accurately drawn n perspective and shaded by rule, and also detailed studies f a groined vault of any period between A.D. 1100 and 500. All the work is to be delivered on or before December 23, 1904.

The floods have not been with us long enough to induce ne law to regard a condition of flood as normal; nor hould their presence increase the (legal) burdens of owners f house property. This appears to be the moral of LLIS *v.* London County Council. Section 122 of the ondon Building Act of 1894 provides that persons shall ot, without the permission of the Council, erect any uilding, to be used wholly or in part as a dwelling house, pon land the surface of which is below the level of rinity high water mark, and which does not admit of eing drained by gravitation into an existing sewer. The ppellant, Ellis, had erected ten houses at Charlton, in e borough of Greenwich, upon land which is about 7 feet bove Trinity high-water mark. Owing to the presence of ood water the sewage did not admit of being properly ained into the Council's sewer for several days in the ar. The magistrate convicted the appellant of contra-ning the Act, but the King's Bench Division quashed the nviction. The failure to drain the houses into the ouncil's sewer arose from no breach of the Act, but from e fact that the sewer itself was occasionally so used to rry off flood water that it was incapable of receiving the ainage of the houses in question.

The most interesting part of the report of the Surrey chæological Society, read at the annual meeting, related the excavations at Waverley Abbey, which have been in ogress since 1898 and have cost 475*l.* 4*s.* 9*d.* The sub-iptions, gate money and photographs have amounted to 5*l.* 18*s.*, leaving a deficiency of 138*l* Last week we published an abstract of the report relating to the work. The retiring members of the Council, viz. Sir F. Pollock, Bart, Lieut.-Col. Marsden, and Messrs. F. A. Crisp, F. B. Eastwood, Edwin Freshfield, LL.D., P. M. Johnston, W. More-Molyneux and Ralph Nevill were re-elected, as also were the auditors, Messrs. C. T. Davis and W. F. Potter, and the hon. secretary, Mr. Montague S. Giuseppi, unanimously. The president, Viscount Midleton, after expressing his deep regret at the loss the Society had sustained through the death of H.R.H. the Duke of Cambridge, K.G., patron and member of the Society, and who took great interest in its proceedings, moved that a vote of sympathy and condolence of the members be sent in a letter to the family of the deceased Duke. This was also carried unanimously. The proceedings closed with a vote of thanks to the noble Chairman for presiding. The Society was founded in 1854. The jubilee is to be celebrated by a general meeting at Guildford on April 28, when, if possible, there will be a loan exhibition of objects of interest to Surrey archæologists. The number of members is 407, made up of:—Annual, 311; life, 88; honorary, 8. During the year twenty-seven new annual members were elected. One previously elected annual member has compounded for his subscriptions. By death the Society has lost 12 members, viz. 8 annual, 4 life; 13 members resigned.

The report of the Northern Architectural Association states that there are sixty-nine members, seventy-two Associates and seventy-eight students, or 219 in all, an increase of sixteen during the year. Among other subjects mentioned is a report on the question of borough surveyors carrying out architectural work. Mr. A. B. Plummer, the honorary secretary, endeavoured to ascertain what was thought by other societies on the subject. It was found that in some cases borough engineers have architects under them in their offices. In Sheffield the City Council are to some extent opposed to the practice. In Leeds work of an architectural character is not so often entrusted to the city engineer as formerly. The Town Council of Leicester have resolved to put all works costing more than 500*l.* into the hands of architects. In some rural districts the district engineers and surveyors not only carry out architects' work for the district councils, but they are allowed "private practice," and have, therefore, practically to recommend their Councils to pass their own plans, and other architects are placed at a disadvantage with those who would otherwise be their clients. The grievance was brought under the notice of the Royal Institute of British Architects, and the reply was that a large committee had been formed, including all the presidents of allied societies, to go thoroughly into the question.

In Glasgow the city improvements committee occasionally obtain the aid of architects for works which demand special experience, and the practice has been found advantageous. But at a meeting of the Corporation on the 17th inst. the following motion was brought forward:—"That it be an instruction to the city improvements committee that in all city improvement and housing schemes the plans of new buildings be prepared and the work carried out by the duly qualified architects employed in the city engineer's drawing office." It was said in support of the proposal that there seemed to be a small ring of architects whom the Corporation employed to the exclusion of others. They had able men in the city engineer's office who were quite capable of undertaking the work referred to. In reply it was said that, with the exception of two or three instances, the work was done by assistants of the engineer's department, but the improvements committee desired to have the same freedom as other departments in going outside when they deemed it proper. There were 13 votes for the proposal and 40 against it. The incident suggests the peculiar prejudice against the employment of architects, which is not confined to any limited district. There must be some reason which inspires members of corporations to prefer engineers, although the work may appear to be outside their province. Any inquiry into the subject should comprise an effort to discover the grounds for a prejudice that is general.

THE FIRE AT BALTIMORE.

THE resolute energy with which Americans overcome the effects of a great fire must be amazing to people of other countries. It is evident that they do not calculate too much about the endurance of buildings, but set more regard upon the arrangements they can make with insurance offices. It used to be said at one time that a succession of bankruptcies generally preceded financial success. Under the present system the joke loses its point. In America, however, it would seem as if buildings entirely destroyed by fire are usually followed by others of a superior character. No one who knows American ways could therefore be surprised when the President of the Merchants and Manufacturers' Association in Baltimore asserted:—"Delay is dangerous. It is not a time for continuous discussion of plans. What is needed is action. The work of rebuilding should be started at once. There can be no general rejuvenation until building operations are under way." Many other speeches of the same kind were heard, and the old maxim of *Festina lente* would appear to receive not the smallest appreciation in an American city after a fire. As Baltimore possesses an excellent periodical, *The Architects and Builders Journal*, we are enabled to realise the different ways in which the important subject is considered by citizens who are architects or builders, as compared with others who are eager for business premises to be opened in order that trade may resume its course.

It is well to remember that the scene of the fire on February 7 and 8 was essentially a district occupied by business premises. The titles of a few of the streets are enough to suggest its character. There were some with numbers, like Second Street, and others recalling celebrities, like Fayette Street and McClellan Street. But Commerce Street, Cheapside, Bank Lane, Lombard Street, Centre Market, are all indications of the machinery of trade. The fire broke out on a Sunday morning in a dry-goods store, in which was property valued at 1,500,000 dols. The owners of a similar store not far off asked to have the intervening buildings blown up. But at the moment the Fire Department was supposed not to have realised the danger. When the second store was destroyed the seriousness of the situation was apparent. Applications were made to Washington, Philadelphia, Wilmington, New York and other towns. And we are told "the railroads aided the expeditious race to the rescue by placing special trains to rush firemen and apparatus to Baltimore" The fire commenced at 10.45 A.M., and at 3 P.M. it was believed that the local firemen, with the aid of those from other cities, had obtained control of the conflagration. But owing to the wind the flames broke out in several places, and continued with increased fury for twenty hours. It was not until after twenty-eight hours' contest that the fire was subdued. The area destroyed comprises about 140 acres.

Liberty has so much power in America, we can understand that the citizens of Baltimore, or rather those having interest in the houses destroyed, would imagine the problem to be faced was simply one for individuals. Let the frontage lines of the former streets be laid out as quickly as possible, not a difficult task for American engineers, and then let the owners of the former buildings erect others which would be substitutes. This attitude is evident from several of the declarations. A former Mayor said what the general community demanded was action, and quick action too. A lawyer wrote, "This is one of the occasions when it is more dangerous to take time to make up your mind than it is to make up your mind wrong." If we may judge from the illustrations in *The Architects and Builders Journal*, the débris must have been moved as quickly as possible from the streets, for the lines of frontage are easily made out, We learn, however, that "merchants who want to rebuild don't know whether they can occupy their former sites until it is decided what streets shall be redeemed. Delay now is doing great harm."

At such a time the responsibility of the municipal authorities should not be ignored. It has been apparent for some time to readers of American newspapers that in many of the cities discontent exists about the manner in which streets were laid out. Paris is the American's ideal, and he wishes to have such vistas as are characteristic of the French capital. Reformers say the opportunity
should be taken to make the restored district of Baltim
correspond with the most modern ideas on the subject
the planning of streets. Such important questions furt
arise as the height of buildings, the materials which sho
be used in their construction, the uniformity of design a
various other matters. A park is also desired for
district that has suffered. *The Architects and Build*
Journal holds that the first desideratum is revision of
enactments relating to buildings. What the city needs, a
what it should have without equivocation, is "a
sufficiently comprehensive in scope to embrace all
requirements of modern designers and builders, stringent
to absolute essentials, yet sufficiently liberal in minor det
as to relieve the architects, contractors and builders
embarrassment from petty trivial annoyances."

The opinions of various architects have been collect
Mr. BALDWIN wants to see uniformity of character
style in the new blocks. The height of the buildi
should likewise be restricted. Although the fireproof
was disappointing, he believes that several buildings wo
have been saved if provided with fireproof shutters and wir
glass windows with metal frames. Mr. KENNEDY advoca
deliberation over the general plan. He suggests
many of the new blocks should be equipped with a cen
plant to furnish heat and power. Mr. EMMART advoca
the appointment of a commission consisting of archite
engineers and builders to formulate a new code.
general opinion of architects and others is that the fire
ultimately be beneficial to the city.

It was to be expected that owners of vacant prem
should take advantage of the situation, and increase re
to four and five times the amounts hitherto received. T
however, will be an incentive to rebuilding when sites
available. There is some alarm, too, that higher wa
will be demanded by *employés*. On the other hand, w
men are likely to be attracted from a very large district.
is also further anticipated by some that an influx will a
of architects and builders from other cities. The Secre
of the Builders' Exchange hopes they will be hospit
received, but that those who regulate the awarding
commissions and contracts will remember "that this g
loss of property has been sustained by 'Baltimoreans,'
wherever practicable Baltimore architects, contractors
mechanics, whose income will be spent in our own c
munity, have prior claim and should receive considerati

RECENT CASES UPON THE WORKMEN COMPENSATION ACT.

THE language used by the Workmen's Compensa
Act is popular language. The working of the
as we all know, has illustrated the truism that pop
language is not exact. However, the Court of Appeal
the House of Lords are gradually giving a precise mea
to its popular phraseology, so that common terms
"factory," "accident," "wharf," or "warehouse" are
the purposes of the Act, assuming meanings which
extensive without being vague. In fact, such words
becoming "terms of art," and the sooner they are
invested with the dignity of technicality the sooner will
rights and duties of workmen and employers be capab
definite ascertainment without litigation. Certain
recently reported go some way to settle the meanings o
terms "accident" and "warehouse."

In the two cases of HIGGINS *v.* CAMPBELL & HARR
LTD., and TURVEY *v.* BRINTONS, LTD., the point at
turned upon the proper definition of the word "accid
In both of these cases workmen employed in a
combing factory came into contact, in the course of
employment, with some Persian wool which was inf
with anthrax, and, in consequence, caught the disease.
only difference in the facts of the two cases was th
the first case, the plaintiff had a raw spot on
neck upon which the germ of the disease settled; wh
the second the plaintiff was quite sound and the
apparently settled in his eye. This difference had
rise to different decisions in the County Court. The j
in the first case held that the plaintiff had not
injured by an accident arising out of and in the cour
his employment within the meaning of the Act; in

econd, that he had been so injured. The Court of Appeal eld that in both cases the plaintiff had been injured by an ccident arising out of and in the course of his employnent, and that therefore in both cases compensation was ecoverable. The decision was really an application of the lefinition which the House of Lords had affixed to the erm "accident" in the case of FENTON *v.* THORLEY & Co. n that case a workman had overstrained himself while ndeavouring to turn a wheel, and had so caused rupture. The Court of Appeal had held that he had not injured imself by an accident, because the rupture was merely the atural consequence of the over-exertion—there was othing fortuitous in the consequences which had followed. The House of Lords decided that the term "accident" as used in the Act, as it is popularly used, to mean "an nlooked-for mishap or untoward event which is not xpected or designed;" and, as they pointed out, to exclude uch cases would be disadvantageous to both workmen and mployers, since it would obviously discourage workmen rom putting their whole strength into their work. It was ot difficult therefore to decide that in both these cases the orkmen had been injured by an accident arising out of nd in the course of their employment. As the County Court judge put it:—"I can see no distinction in principle etween (this case and) the accidental entry of a spark rom an anvil or the accidental squirting of scalding water r some poisonous liquid—the only difference is that in hose cases the foreign substance would be so large as to e visible; in this case the foreign substance is microcopic." It should be noted, however, that a disease rought by the workman to his work would not be covered y this decision.

In the case of GREEN *v.* BRITTEN & GILSON the uestion was whether an arch in which the defendants ored heavy glass was a warehouse within the meaning of e Act. If it was a warehouse the defendants were liable the plaintiff for injuries which he had received while ere employed. If it was not a warehouse they were not able. It is quite clear that for the purposes of the Act the rm "warehouse" is not confined to denoting a place hich has some connection with a dock or with the carriage goods by water; nor is it necessarily a place where the ublic can store their goods for a fixed sum. On the other and, it has been decided that a place where goods are ored for the immediate purposes of a retail, even a large tail business, is not a warehouse within the meaning of e Act, because the Act does not apply to shops or shopeepers (BURR *v.* WHITELEY). In the present case the efendants were carrying on both a retail and a wholesale siness, and they had a shop connected by an underground ay with the arch adjoining that in which the accident ppened. It was held that as the arch in question was ed to store goods for the purposes of a wholesale business, was a warehouse within the meaning of the Act. The stinction drawn between a place where goods are stored r the immediate purposes of a retail business, and the place here they are stored for the purpose of a wholesale siness, was explained by the theory that "the danger cident to the handling of goods on a large scale" was idently the danger against which the Legislature ended to guard by introducing the word warehouse o the Act, while it was clear that they did not ean to include shops or shopkeepers. But we should te that the Court probably did not mean to say at the wholesale or retail character of the business s the sole test of the question whether a place where ods are stored is or is not a warehouse. Looking at e preceding case of BURR *v.* WHITELEY, we should say at the Court meant to decide that this was simply one t which could be applied. If we were to consider it the ly test we should be in danger of defining the term solely reference to the character of the business there carried , and not by reference to the character of the place. A ce of the same character, perhaps the same place, might a warehouse or not a warehouse, according as its present cupier supplied the trade, or was the proprietor of a ge retail business. The difficulty is, of course, to conuct a definition which will not bring every shop within Act. Perhaps we might say that just as we must have ourse to the popular idea of the term "accident" to ive at a definition in accordance with the Act, so we must have recourse to the popular idea of the term "warehouse." To the mind of the ordinary man a warehouse is a place where goods are stored more or less in bulk. Any separate or independent place where goods are so stored in large quantities should be held to be a warehouse, whether they are stored for the purpose of wholesale or retail trade. This would obviously exclude small shops where a small stock-in-trade is kept. It would no doubt be difficult to draw the line in some cases. Probably any place for the storage of goods large enough to require a special staff to look after it might be held to be a warehouse; or, again, it might be said that any place from which goods were fetched directly as they were wanted in the shop would not be a warehouse, because there could in such a case be no handling of the goods in bulk, while a place where goods are stored preparatory to their removal to a place where they can be fetched directly as required in the shop would be a warehouse. Other tests of this character will probably be evolved as cases arise for decision.

HEATING BY HOT WATER.*

IF we believe CHARLES KINGSLEY, "'Tis the hard gray weather breeds hard Englishmen." But with no less truth it might be asserted that the same weather also kills a great many of them. Up to a certain age it may stir the Viking's blood and brace brain and sinew, but afterwards men and women are susceptible of its power in a different manner. The death-rate is as true and deserving of credit as any poet's rhymes, and it testifies how not only the old but also the very young are unfitted for the hardening process. It was, we suppose, an old belief that cold could not be injurious which made English houses so chilling during many months in the year. The picturesque halls when the blood was nipped and all around the wind did blow must have been the reverse of pleasant places for those who were remote from the blazing logs. When improvements in construction began to be considered a more efficacious system of heating was recommended. BACON, for example, advises the building owner to make arrangements in order that he may enjoy shady rooms in summer, warm rooms in winter. We find Sir HENRY WOTTON in the early part of the seventeenth century also saying:—"I will conclude with a note from PALLADIO, who observeth that the Ancients did warme their Roomes with certain secret Pipes that came through the Walles, transporting heate (as I conceive it) to sundry parts of the House, from one common Furnace: I am ready to baptize them Caliducts, as well as they are tearmed Ventiaducts and Aquæducts that convey Winde and Water, which, whether it were a custome or a delicacie, was surely both for thrift and for use, far beyond the German stoves; and I should preferre it likewise before our owne fashion if the very sight of a fire did not adde to the Roome a kind of Reputation, as old HOMER doth teach us in a verse, sufficient to proove that himselfe was not blinde, as some would lay to his charge."

The last words express one of the reasons which for a long period must have kept English houses in a chilling and unhealthy state. The spectacle of a good fire is dear to all hearts in Great Britain, and to it much has been sacrificed. Some rooms in a house are often more warm than is desirable, whilst in others a fire is never lighted throughout the coldest winter. Indeed, it is possible for an English man or an English woman to be made to endure a great many dangerous diseases, especially those connected with the respiratory organs, without ever going beyond their hall door. While this fact cannot be denied, for every winter brings testimony to it, it is not yet accepted as a truth that measures ought to be taken to insure that the atmosphere of a house is in a state of equability. It is presumed that any arrangement of the kind would be fatal to the existence of the fireplace. Experience has proved, however, that it is quite practicable to retain the old English institution and yet enjoy the benefit of a diffused heat by means of auxiliaries in the form of pipes, boilers, radiators, &c.

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* *Heating by Hot Water, Ventilation and Hot-Water Supply.* (Third edition.) By Walter Jones. 142 Illustrations. (London: Crosby Lockwood & Son.)

Many improvements have been effected in fire-grates, and they are of late supplemented by gas and oil-stoves. But in the majority of cases heating by means of hot air, or hot water, or by steam, is considered more generally applicable. It is needless to remark there are advocates of each kind of agency or power not only among inventors and manufacturers of apparatus, but also among architects. The author of the volume on heating by hot water, which we are about to notice, is known as a manufacturer, and has his own specialties. Nevertheless, that circumstance does not make him prejudiced against other systems. In fact he holds that each system can possess peculiar advantages, and that under special conditions one may be more suitable than another, whilst "not one of them will fulfil all the conditions of the multifarious phases of artificial heating." He is convinced, however, "that for ordinary temperatures of 60 degs. to 70 degs. for churches, schools, public buildings, dwelling-houses, offices, there is no system that has greater advantages or fewer disadvantages than the low-pressure hot-water system, especially when used with a proper system of ventilation, introducing the air through direct or indirect radiators."

The greater part of the book is occupied with a demonstration of the advantages of the low-pressure system. Mr. Jones treats his subject scientifically by explaining the principles of heating. He describes inventions which are not his own, and in that way his book is elevated above a trader's exposition. The merits of Charles Hood and Thomas Box as investigators are recorded; and indeed few men have done more to increase our knowledge of the science of heating. Mr. Jones is not afraid to say, "as heating engineers we have much to learn, and, no less important, we have much to unlearn." A conviction of that kind is a safeguard against dogmatism

There is a very interesting chapter which is worth the attention of owners and occupiers of houses, for it relates to boiler explosions. Mr. Jones maintains that the primary cause is due to wintry weather and its concomitants. He has collected statistics for several years, and ascertained that out of 244 explosions not more than 17 occurred in summer, and in each case it was found the taps were closed or the pipes choked up. The remaining 227 instances happened during the winter, and usually the pipes were blocked with ice. His conclusions are as follows:—"Explosions are brought about from causes that are well known; they are mostly preventable, and although it is too much to hope that they will ever be entirely or absolutely prevented, the number of explosions can, and should be, reduced in number; the cause in all cases is over-pressure; in a few instances the over-pressure has been caused by closed taps, or pipes choked with scurf, but they are mostly caused owing to the circulating pipes being blocked with ice, and they might have been prevented had a reliable safety-valve being properly fitted to the boiler."

The author does not believe that perfection is yet attained. Steam-heating, especially, he maintains has a vast future before it, more particularly for large and lofty structures. But for ordinary buildings there can be no doubt that several efficient means are to be had. As heating is essentially scientific work, it is unwise to employ ordinary tradesmen or general ironmongers, who are guided by mere empirical rules, and who on that account gain a reputation for being practical. Mr. Scott's book is excellently arranged, and embodies the result of a long experience.

THE SOUTHAMPTON UNDERCROFT.

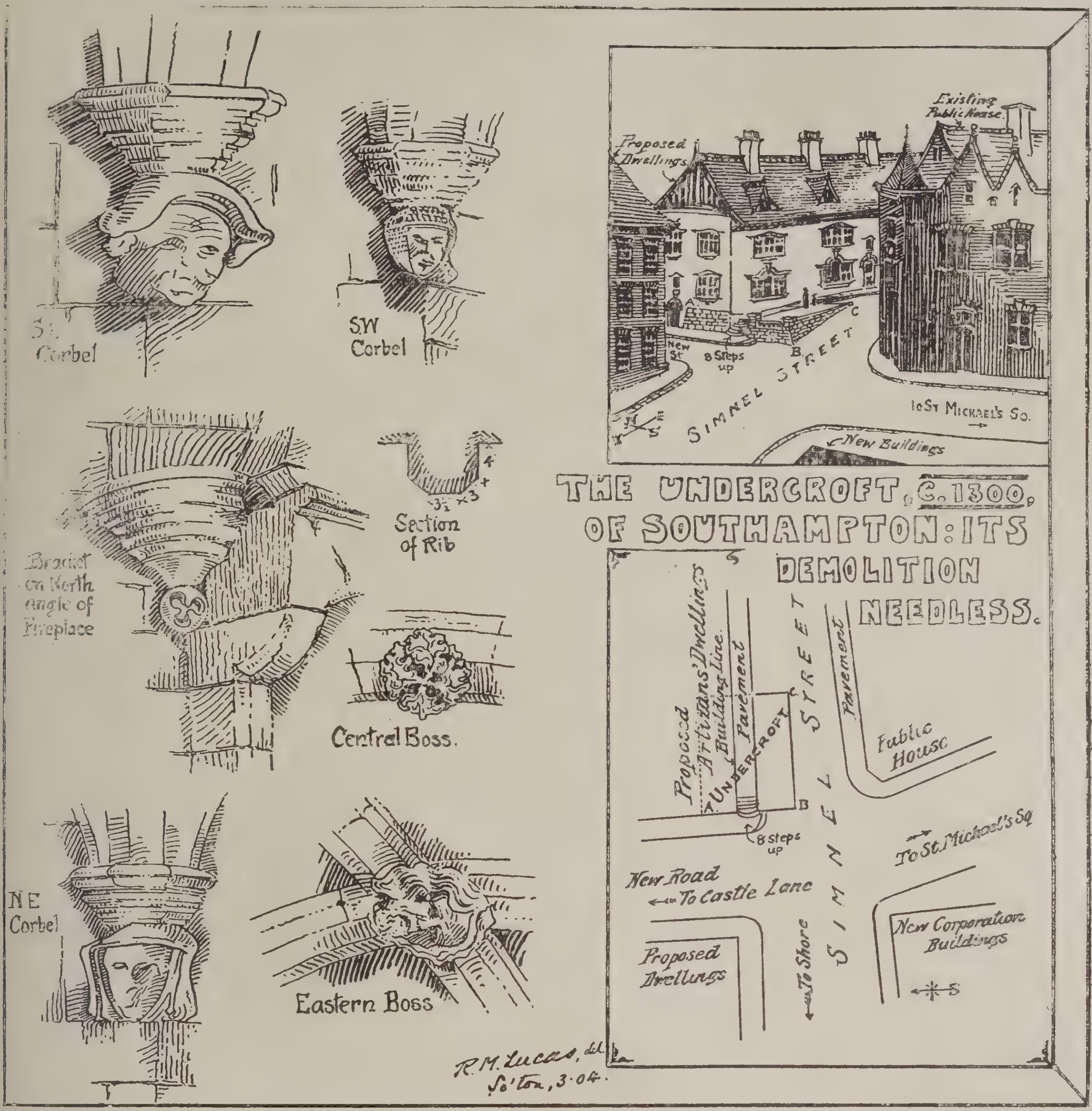
THE little building in Simnel Street, Southampton, which we illustrate, men call the Undercroft for want of a better name; for in spite of the investigations of many learned archæologists, who from time to time have visited it, the purpose and history of it have never been ascertained. It is built of stone, with a groined vault of two bays, and its approximate dimensions are:—Length, 34 feet; width, 23 feet; height, 11 feet The present approach is by a flight of steps under a modern bulkhead, and its floor is some distance below the street, which is level with the crown at the east end, and about 4 feet lower at the other. Two blocked-up windows in the south wall give an indication of the original level of the street. The fireplace is interesting and in good preservation, the bracket to the north of it carrying a date-mark in the form of a single ball flower ornament, from which one may assume
the building to have been erected in the early Decorate
period The mouldings are elaborate, and all the bosses ar
corbels are richly carved; and although some have bee
defaced, others are in excellent condition. The easternmo
boss is a head carved with the traditional features of Chris
The abbots of Beaulieu are known to have owned property
this very street, and it is possible that the Undercroft was th
lowest part of a building belonging to them.

Attention has recently been called to this particular one
Southampton's many relics of antiquity by the recommendati
of a committee entrusted with the housing of the workin
classes to do away with it for the sake of a new street, in th
planning of which some years ago it was disregarded; and
view of the fact that as soon as the lines of the new street we
known the Corporation had agreed to preserve it, the rece
proposal came as an unpleasant surprise. In haste t
archæologists met together and formulated a protest on t
eve of the day upon which the Council were to adopt or reje
their committee's recommendation; and it was then at t
very last moment that a means of preserving both the buildi
line and the Undercroft occurred to and was put on paper
a local architect, Mr. R. M. Lucas, the gentleman whose wo
on a similar occasion in connection with the Southampt
Bargate is gratefully remembered by those who value t
town's chief architectural treasure. The protest was sent, a
his sketch plans were hurriedly submitted and explained
the chairman of the housing committee and several influent
members of the Corporation, and the result we are happy
say, has been the withdrawal of the recommendation. T
sketch and plan annexed explain the proposal, which, involvi
neither inconvenience nor expense, has met with gene
approval, and its adoption insures the permanent preservati
of the Undercroft. It will be seen that the new buildings a
their footpath (with steps at its west end) will cover t
northern portion, while the southern is left projecting into t
amply-wide road, and is made watertight and cased in wi
stone An old doorway into a Norman wine store (n
destroyed) might be used for access instead of the pres
bulkhead.

The immediate neighbourhood of the Undercroft is v
rich in Mediæval remains. Simnel Street (from *simenel*,
French, fine flour—or, some say, from St Michael's) leads
from the grandly-arcaded defensive walls along the shore
the south side of the site of the castle, of which fortress scarc
more than a few great arched bays of walling remain;
within a bow-shot of it towards the south are St Micha
Church, Henry VIII's palace, King John's house with
Norman chimney, and the West Gate and Guard-house I
a quaint and picturesque part of a town that is pictures
naturally through its peculiar situation between two rivers,
among many fine views we may mention one in particular t
is framed by the arch of the west gate—a view of the br
slow-flowing Test and the distant forest, worth going far to
under the right conditions of tide and light.

EXCAVATIONS IN CRETE.

IN a letter to the *Times* Mr. G. A. Macmillan writes
I have once more to appeal to the generosity of y
readers for further assistance in carrying on Mr Arthur Eva
important excavations on the site of Knossos. It is ha
necessary to dwell upon the astonishing results alre
achieved, for their value and interest have been recognised
and wide by scholars all over the world. At the opening
the season of 1903 it was thought that a sum of from 1,500
2,000*l.* would be sufficient to bring the excavations to a cl
although it was pointed out that another 1,500*l.* would
required to cover the deficit of previous seasons. Mr. Ev
however, had not been at work two months before new
coveries were made which made it evident that the work
to be done had been greatly under-estimated. At the no
western angle of the palace area a new building was reve
which the excavator could only regard as the royal thea
Hard by a very complex mass of constructions was
covered of the nature of a sanctuary, which yielded a
harvest of Minoan pottery and an important deposit
bronze vessels On the north-east of the palace was foun
remarkably well-built house, which is believed to have bee
royal villa, and on one of the landings was discovere
magnificent painted jar containing reliefs of papyrus plant
a new technique. Further chambers were opened within
original palace area, and here again the yield of fine pot
and of other objects of art was rich and abundant. In
very last weeks of the season a still more startling disco
was made of two spacious repositories of massive stonew
containing, in addition to a store of early vases, a quantit
relics from a shrine. These included a remarkable serie
objects in a kind of faïence like the so-called Egyptian pc
lain, consisting of finely-modelled figures, exquisite relief
animals, vases with floral designs, flowers and foliage in



THE UNDERCROFT, C. 1300, OF SOUTHAMPTON: ITS DEMOLITION NEEDLESS.

round, &c. The central aniconic object of the cult, supplied in the formerly discovered shrine of the Double Axe, was here a marble cross of the orthodox Greek shape

The interest excited by these discoveries brought in further funds, and the total sum raised during the season was about 4,000*l*., including a donation of 1,000*l*. from an anonymous subscriber. The actual cost of the year's excavations at Knossos was about 2,000*l*.; 1,250*l*. was repaid towards the deficit of previous seasons, and other expenses, including the grant of 200*l* towards the excavations conducted at Palaikastro by the British School at Athens, amounted to about 300*l*. This left a balance in hand towards the work of the coming season of rather more than 500*l*. An appeal recently issued to former subscribers has brought in about 400*l*., so that the sum now available is about 900*l*.

Warned by the experience of former seasons, the committee of the Cretan Exploration Fund have this year refrained from making any estimate of the sum still required to complete this important site, but it seems safe to say that not less than 2,000*l*. should be forthcoming for the season of 1904 at Knossos alone.

But we have also to consider the claims of Palaikastro. The work done there last year yielded most interesting results. A considerable town was discovered, regularly laid out in streets and blocks. The general plan and parts of the houses seem to date from the latter part of the Kamáres period, but there was extensive rebuilding during the Mycenæan period. House fronts in ashlar masonry, bath-rooms, drainage arrangements, and a great variety of domestic utensils, indicate widespread prosperity and comfort. The inhabitants had wheat and peas; they made oil, and probably wine. They imported obsidian from Melos, green porphyry from the Peloponnese, and liparite fron the Lipari Islands. Their wealth was probably derived from trade with Egypt. The yield of pottery, especially rich in marine designs, was exceptionally large. The ossuaries outside this town were further excavated by Mr. W. L. H. Duckworth, with the assistance of grants from the Royal Society and the British Association for the Advancement of Science.

The surrounding region was also explored. A pre-Mycenæan sanctuary was excavated on the hill of Petsofa by Mr J. L. Myres, and the remains of an equally early purple factory on the island of Konfonisi by Mr. Bosanquet. Mr. Currelly, a Canadian student, took part in both these excavations. Caves and rock-shelters were examined in the limestone plateau of the interior, and a Mycenæan farmstead was excavated at Kournméno. The physical characteristics of the present population were studied by Mr. Duckworth, and their dialect by Mr. Dawkins.

Full reports of the excavations of last season both at Knossos and at Palaikastro will as usual be published in the "Annual of the British School at Athens," which will probably appear in the course of April.

Briefly, the programme of the fund for 1904 is to devote the greater part of its income to further investigation of the lower levels within the Palace of Knossos, and a smaller sum to assist the British School at Athens in completing the excavation of Palaikastro. Mr. Bosanquet has just expressed to the managers of the fund the hope that as much as 500*l*. may be spared for this purpose. Inasmuch as I have already pointed out that not less than 2,000*l.* will be required for the season's work at Knossos, the minimum sum to be raised is 2,500*l.* Towards this we have, as stated above, about 900*l.* in hand, which leaves a balance of 1,600*l.* If we could raise as much as 2,000*l.* beyond the sum now in hand, I am satisfied that it could be turned to good account. I need hardly urge again the great importance of carrying to a successful conclusion excavations which have reflected such great credit upon the skill and enterprise of British explorers.

Subscriptions may be sent to myself at St. Martin's Street, London, W.C., or may be paid into the account of the Cretan Exploration Fund at Messrs. Robarts, Lubbock & Co., Lombard Street, London, E.C.

TESSERÆ.

Roman Highways in Britain.

NOTHING can be more obscure and uncertain than the whole subject of the supposed Roman highways in this country. Camden treats it with a sort of contempt, declining to venture upon any pursuit after the course of the four pretended roads, and only remarking that our old historians, who will only have four ways of this sort, are in that, without all question, in an error. The names by which the four highways are distinguished appear to be Saxon in form, although they may be Roman or British in etymology—Watling Street, Ikenild Street, Ermin Street and the Fosse. Watling, or Gathelin Street, which is said to have been so called from a functionary of the name of Vitellianus (in British, Guetalin), to whom the care of it was committed—a most unsatisfactory and improbable etymology—is held to have extended from Dover to Chester; or, according to another hypothesis, to Chester-le-Street, in Durham, passing through Canterbury, London and Verulam, from which last-mentioned town it has also the name of Werlaem Street. Its remains, or supposed remains, are still known in various places by the names of High Dyke, High Ridge, Ridge Way and Forty-foot Way. There has been much controversy, however, as to whether Watling Street did actually pass through London. Stukeley in particular contends that it crossed what is now called the Oxford Road at Tyburn, and proceeded to the west of Westminster through Hyde Park and St. James's Park to the Thames, which it crossed at Old Palace Yard. The common opinion however is that it passed along the line of what is still called Watling Street in the City, meeting the other three great roads at the central milliarium in Cannon Street, pointed out by the site of London Stone, and crossing the river at Dowgate to what is still called Stoney Street on the Surrey side. The northward course of Watling Street, after leaving London or its neighbourhood, is supposed to have been over Hampstead Heath to Edgware, and hence through Verulam (or St. Albans) and Dunstable in Bedfordshire to Stoney Stratford in Northamptonshire, whence it skirted Leicestershire on the west to Bosworth. From this point its course is disputed, some making it proceed in a north-western direction to Chester, others carrying it due north to York and thence to Chester-le-Street, whence some imagine it to have been latterly extended to Lanark and Falkirk in Scotland, or even as far as to Caithness at the extremity of the island. Ikenild, or Ichenild, Street is said to have been so called from its commencing on the eastern side of the island, in the country of the Iceni mentioned by Tacitus, and supposed to be the same with the Simeni of Ptolemy, who appear to have occupied Norfolk, Suffolk and Cambridge. On the supposition, however, of London Stone having been the central milliarium where all the great roads of the country met, a branch of the Ikenild must have extended to this point. It is supposed to have passed through Aldgate, and to have been otherwise known by the name of the Vicinal Way. The course of the Ikenild to the westward is extremely obscure. Nearly all that has been even conjectured on the subject is that it crossed Watling Street at Dunstable, and thence extended in the direction of Staffordshire to the western coast. It seems most probable that, while Watling Street ran directly north to Chester-le-Street, the Ikenild crossed it obliquely to Chester; but the scanty remains of the one road have been confounded with those of the other. Ermin, or Hermin, Street, again, is conjectured by some to have extended from St Davids, at the south-western extremity of Wales, to Southampton; by others to have stretched more directly across the country to London, which it may have entered by what is now called Holborn. Finally, the Fosse is supposed to have taken its course from south-west to north-east, beginning near Totnes in Devonshire, and passing through Bristol, Cirencester (near which place it seems to have crossed Ermin Street), Chipping Norton, Coventry, Leicester and Newark to Lincoln If it was carried from thence to London it probably proceeded through Bishopsgate Street.

The Serpent in Ancient Art.

The perpetual change which contrasting forces produce on flexible forms is well exemplified in the movements of the serpent, the emblem of life throughout the pagan world. Plutarch, perhaps repeating the common opinion of the ancients, explains this from the fact that the serpent casts its skin frequently, thus appearing to be renovated. A more obvious reason, though still requiring explanation, is the very ancient identity in the Semitic languages of the words equivalent to serpent (perhaps also worm) and life. The frequent use of the symbol in ancient art and mythology is well known. The attribute of Æsculapius, the restorer of life, is a serpent; the serpent on the trunk which supports the *Apollo* is best explained as characterising the sun, the giver of life. Minerva feeding a serpent typifies the spirit of the universe nourishing the vital energies of nature. In Egypt we find the symbol in architecture; the door of every temple is ornamented with a device consisting of a globe (the sun?), whence issue serpents, the whole finishing with wings. This might have been intended to represent, in the pagan sense, the giver of life, light and motion. Life, as the chief natural good, was the essence of the pagan religion, and the connection between that religion and the principle of beauty in ancient art is thus intelligible.

The Northern Spirit in Sculpture.

In northern Europe the leanings in sculpture, as well as in literature, are strongly based on movement and life, and therefore with a tendency towards life rather than beauty, lacking the repose and restraint that perhaps the highest beauty needs. This is the inheritance of our Gothic ancestors, in whose work the story told was always vigorous, but the handling somewhat rough and rude. But, then, the difference in climate must be considered, because to obtain the same effect as the Greeks arrived at in their sunnier and softer climate, we have to emphasise more strongly and give more action to our figures; in other words, make life the first thought rather than beauty. But sculptors must hope, in their struggle after life, that the more gentle dame will not forsake them, but will follow in the wake of her more lively sister, and she then may, after all, be the more observed for not being the first to command attention. In this way a noble national art may be conceived, typical of the country in which we live. Perhaps it may be thought that too high a view is being taken of decorative sculpture in treating of it in the highest form we can conceive, and that the word "decoration" does not allow of such wide application. In the ordinary sense it certainly does not, but the word has meant, and should again mean, the union of sculpture (in its noblest form) with architecture, and that such work should appeal not only to the eye, but to the mind as well. For only when the subjective, as well as the objective, character of sculpture is fully developed can it truly be described as great. Both were fully expressed in Grecian architectural sculpture, and so it should still be. The problem now is, after all, the same as theirs:—(1) To represent an idea, (2) to keep as close to nature as possible, (3) to be sure of the effect at a required distance.

Decline of Christian Byzantine Art.

The fall of Constantinople produced the same effect on Eastern that the Reformation, a century later, wrought on Western ecclesiology. But there was one great difference. Western architecture, after arriving through three stages at relative perfection, had a slow decadence of 170 years before it was finally extinguished: Eastern art, on the contrary, had attained in its Servian development its highest standard of perfection, but a very few years before it was overwhelmed. Therein its course closely resembled the fate of Italy, where Middle-Pointed was at once succeeded by Renaissance. In the further East, almost all traces of Christianity, except in the immediate Patriarchate of Jerusalem, had perished; the bishops, where the succession still continued, had deserted their sees; the wretched congregations of Lycia or Bithynia, of the provinces that once bowed to the throne of Antioch, assembled where and how they might, glad if the meanness of their churches, or the privacy of their assemblies, might elude or disappoint the rapacity of the Turks. In Greece, again, and the Islands, the most conflicting influences were at work. Venetian and Genoese empire, the petty sovereignties of the Frank despots of the Isles, the expiring art of the Byzantine mind, the rising glories of mosques and minarets made the fifteenth and sixteenth centuries in those regions a perfect Babel of ecclesiology Persecution was rife, apostasy frequent, yet still churches were built, and in some rare instances monasteries founded; but the general effect in the unreality and grotesqueness of architecture at that period resembles nothing so much as the extraordinary condition of Bosnia, where renegade chiefs introduced the turban and the yatagan into their feudal castles, and made their prostrations towards Mecca by the tombs of their knightly ancestors. Russia might, under other circumstances, have kept alive and developed its architecture, but she was now groaning under the yoke of the Tartars; and though her Church proved the one great national bond of union, and preserved her from splitting up into a variety of petty provinces, the long domination of the Mongols impressed a Tartaric similitude on Russian ecclesiology. The tent of these nomad tribes was the normal principle of all their architecture; the tent became therefore the prototype of the cathedrals of the Kremlin, and retained its ascendency well nigh down to the time of the autocrat Peter. Georgia, though suffering severely from Turkish and Persian incursions, still held her own; and in the middle of the fifteenth century the exarchal church of Mtskètha was refounded with a dignity that would not have disgraced an earlier and a better age.

Building in A.D. 1000.

In northern Europe up to the time when in the twelfth century the towns began to grow independent, and then rich and powerful, the greater part of the building was done by the Benedictines; and architecture, which three centuries before had been chiefly in the hands of the bishops, had passed into theirs. When the long disorders of the ninth century and the slow attempts at recovery in the tenth had passed, and with the growth of the feudal system a kind of order had established itself throughout Europe, there followed an outburst of enthusiasm in building, which looked at from the present seems amazing French writers make much of the depressing influence of the year 1000, and the expectation of the end of the world which filled Christendom with uneasiness, and deadened every impulse of progress. It seems evident that at least in the south—in France, and perhaps in Italy—this had much effect and put a check for the moment to the progress of building, though there is a record of many churches going on in the north in the last decade of the tenth century. At all events, the growth in the eleventh was sudden and general. Ralph the Bald, the monkish historian of Cluny, writes thus of what he saw:—"Towards the third year after the year 1000 the sacred basilicas were rebuilt from foundation to roof throughout almost the whole universe, especially in Italy and Gaul. Christian people seemed to vie with each other in building the fairest and richest churches. One would have said that the whole world with one accord had put off its old worn garment to clothe itself anew with churches, as with a white robe. It was not enough for the faithful to rebuild the churches of the bishops; they restored and adorned the monasteries that were dedicated to the saints, and even the village chapels." A passion for building seems to have infected all Christendom.

Wood of Bath.

In the early part of the eighteenth century a feature was introduced in street architecture till then quite unknown in this country, viz. the combining a number of private houses into one general design. Although such mode of producing continuous façades was afterwards adopted by the Adams, was followed by Nash and has since become very general, Wood still continues to be nearly the first in point of merit as he is of date It was about the end of 1726 that he began his Bath "improvements," which he carried on uninterruptedly for about twenty years, within which time he entirely changed the architectural character of the place and conferred upon it even a degree of magnificence, at least as displayed in such parts as the Parades, the Circus, the Royal Crescent, Queen Square and some of the public edifices, and even some of these would have been superior to what they are had they been executed entirely according to the original designs. If not altogether proof against criticism, they are at any rate free from the sneering reproach levelled against many later works of the kind as being "mere lath and plaster;" and if Smollett has spoken of them very depreciatingly in his novel of "Humphry Clinker," others have been even prodigal of praise. Among these last is the author of the "Principles of Design in Architecture" (Mitford), who says, "With all its faults in parts, I must reckon the Crescent at Bath among the finest modern buildings at this day (1809) existing in the world;" and he further laments the large decay of architectonic taste at Bath since Wood's time. What he did therefore at Bath alone would justly entitle Wood to an eminent place in the history of English architecture, and not least of all for the very reason which has perhaps occasioned him to be passed over with mere general notice, inasmuch as he distinguished himself rather as the founder of a system of improvement than as the author of any individual structures of importance. Still, he produced some works of the latter class that would have preserved his name from oblivion, and among them are the noble mansion of Prior Park, erected for "the generous Allen;" that of Buckland, for Sir John Throckmorton, and the Exchange of Bristol, first opened in September 1743. This last was, if not a very large, a very handsome structure (110 feet by 148 feet), and the principal or north front a far more tasteful specimen of the Palladian style than almost anything by Palladio himself. Wood, who at that time was a justice of the peace for Somersetshire, died May 23, 1754, but at what age is not said; he was probably born about the close of the preceding century. He was also known as a philosophical writer upon his art by his "Origin of Building, or the Plagiarism of the Antients," folio, 1741, which is however rather strained and fanciful in its opinions, its argument being to show that the system of architectonic beauty and proportion is derived from the Jewish nation. To this publication may be added his "Essay towards a Description of Bath," second edition, two vols. 8vo, plates, London, 1749; and "Description of the Exchange of Bristol," with plates, 8vo, Bath, 1745.

Art and Nature.

Nature constitutes the only true and perfect model for art. Until art can attain to the complete imitation, or is able to follow the manner of nature, its operation is imperfect. When art goes beyond nature it degenerates into extravagance. When it entirely accords with nature then only is its style perfect. Nevertheless, people in general are not satisfied unless in representations by art nature is not only equalled but exaggerated. This is owing to two causes. In the first place, both in nature and in art the most striking ideas please us most on account of their producing congenial excitement in the mind. And, in the second place, more than actually natural vigour is required in a representation in order to atone for that want of life and activity which are seen only in the real object. Exaggeration in representation may consequently be thus far legitimately carried that the design exceeds in intensity the actual occurrence described, so as to atone for that want of life and reality in the picture which belong only to the actual transaction; but such a performance should never be calculated to excite in the mind sensations more vivid than that the real transaction itself would have called forth. Unless the representation reaches to this point it is deficient in vitality. Whenever and so far as it goes beyond it, and thus exceeds nature, it amounts to extravagance, and is consequently unreal and incorrect. The best and most forcible illustration of extravagance and of its ill-effect in pictorial efforts is perhaps afforded by some of the copies of really great works of art which have been made by inferior or ill-judging artists, in which they have endeavoured to intensify the expression beyond what the original represented or what real nature would have dictated.

Irish Round Towers.

It is a mistake to suppose that all the Irish round towers are of very early date. Many of them are contemporary with our Norman buildings. One at least was built as late as the thirteenth century. But this in no way affects the antiquity of the type. Though some of the existing towers are as late as the days of Giraldus, yet the famous passage of Giraldus about the towers would alone prove that the custom of building such towers was already ancient in his time. This argument would be equally sound, even though it could be shown that every existing example was certainly of the twelfth century or later. All that would be proved would be that the existing towers had replaced earlier ones of essentially the same type. So with the ancient churches and groups of churches there is no need to prove that many of them were built after, some long after, the invasion, Norman or English, or whatever we are to call it. But the type is none the less ancient and national. It is shown to be so all the more by the fact of its being retained in native foundations alongside of the new type introduced by the invaders. In fact, some of the arguments often employed about Irish buildings are simply another form of the old heresy about the year 1066. Discussions of Irish as well as English antiquities are often unconsciously affected by a lurking belief that after all nothing could have been done anywhere before the time of William the Conqueror.

Arab Architecture.

The architecture of the Arabs bears a certain resemblance to that of Byzantium. It uses the columns to support arches and imitates the method of resting domes upon pendentives disposed in square. But it is distinguished from the Byzantine by the employment of the ogee and the horseshoe arch, lighter in effect than the semicircular form, and by the strange but graceful innovation in the shape of pendentives supporting the dome, which have given to the form of construction in which they are employed the name of *voûte à stalactites*. The bare walls without openings that Saracenic exteriors present are necessary to resist the power of the sun; the interiors, on the other hand, present a profuseness of ornament of the most exquisite and refined kind, which, though every sort of animal representation is excluded, depends for its effect upon variety of colours and materials. This form of architecture is replete with all that is fanciful; it often displays much grace and elegance, though rather of an artificial kind, and with more richness than dignity. It pleases the eye by the variety of forms and colours, by the play of light and shade, but it does not enrich the intellect with any defined or precise idea.

NOTES AND COMMENTS.

THE announcement by the Dean of CANTERBURY that the central tower of his cathedral is in urgent need of reparation must grieve every lover of English architecture. Although it has a pair of excellent western towers, it is only necessary to cover on a print the noble central "Angel" or "Bell Harry" tower in order to realise what a different appearance the cathedral would present if that noble structure were to succumb to the influences of time. Mr. W. D. CARÖE has examined it recently, and while he is able to state there are no cracks or fissures in the main walls, there are cracks in the angle buttresses which are carried up to the turrets. The external ornamentation is also damaged by the weather, and the heavy mullions of the upper windows on the south face have become dislocated. It would be impossible to specify exactly all the works which will be required in the restoration of the tower, or to estimate their cost, unless means are provided for a detailed examination. The Ecclesiastical Commissioners have therefore granted 1,000*l.* in order to erect a scaffold which will enable Mr. CARÖE to scrutinise the tower and to report upon the works which are essential. The tower is a comparatively modern addition. Prior GOLDSTONE, in the middle of the fifteenth century, built the lady chapel. He was succeeded by Prior WILLIAM SELLYING, who in turn was followed by a second THOMAS GOLDSTONE, of whom it is said:—"He, by the influence and help of those honourable men, Cardinal JOHN MORTON and Prior WILLIAM SELLYING, erected and magnificently completed that lofty tower commonly called Angyll Stepyll in the midst of the church, between the choir and the nave—vaulted with a most beautiful vault, and with excellent and artistic workmanship in every part sculptured and gilt, with ample windows glazed and ironed." The late Professor WILLIS considered that as GOLDSTONE is said to have been assisted by Prior SELLYING, he must have commenced it before he obtained the priorate.

WE mentioned lately that the members of the American Society of Civil Engineers hesitated about the acceptance of Mr. CARNEGIE's liberal offer for the erection of a building in which the four American engineering bodies would find accommodation. It was resolved to ascertain the decision by means of voting. Out of 1,801 votes, it was found there were 1,139 against acceptance and 662 in favour. It was anticipated that the latter number would be far less, but the desire for unity was strengthened by reflection. When it is considered how important a position is held by the American Society of Civil Engineers, there need be no surprise at their action. If new offices are required, the members could easily provide the funds necessary for the erection of a costly building. Whether the representatives of mechanical, electric and mining engineering can come to terms with Mr CARNEGIE remains to be seen. It was announced at the end of last week, however, that he had arranged for the bestowal of 1,500,000 dols. to the erection of a college where engineering science in general would be taught, and that may signify an alteration of his project.

THE shore of the Firth of Forth when the tide is out was described by SCOTT as consisting of wet sand, black stones and rocks covered with seaweed. The modern tourist who glances at the place as he travels over the Forth Bridge is likely to take the description as correct. It is easy therefore to understand the surprise expressed in the House of Commons when it was found that 122,500*l.* was paid for the land required at Rosyth for the naval base and 12,250*l.* for "minerals," of which there was no trace, making in all 134,750*l.* According to the explanation of Mr. THOMAS BINNIE, of Glasgow, who was the valuer, the sum paid was not excessive. The two properties acquired by the Government contain 1,178 acres of dry land and 285 acres of foreshore. The present letting value of the district will no doubt be increased when the transformation takes place. Mr. BINNIE says that the Admiralty have purchased not only sufficient land for the largest naval establishment ever likely to be erected on the shores of the Forth, but they have also bought a large area of land on which dwelling-houses will be built for their workpeople. If only two-thirds of the 463 acres of available building land were "feued" at 20*l.* per acre the annual revenue would amount to over 6,150*l.*, while interest at 3 per cent. upon the purchase money for the whole property bought, including the minerals, amounts to only 4,042*l.* 10*s.* If these estimates are realised the result will be that the Admiralty will have a clear income of over 2,100*l.*, the 1,000 acres of land devoted to the naval works will cost them nothing, and they will still have 150 acres of land for parks, playgrounds, schools, or any other public purpose they desire to devote it to, so that Rosyth may indeed be made a garden city. As showing the value of the district, Mr. BINNIE says that six acres were required in connection with a branch railway at Inverkeithing. The price fixed in January last by a valuer appointed by the Court of Session was 777*l.* an acre. If compared with the 84*l.* per acre given for the land at Rosyth, the advisers of the Admiralty feel confident that the land purchases at Rosyth have been arranged upon terms which will prove to be by no means unfavourable for the buyers.

ILLUSTRATIONS.

COLCHESTER TOWN HALL.—CORRIDOR, FIRST FLOOR.

CATHEDRAL SERIES.—CHESTER: THE CHOIR.

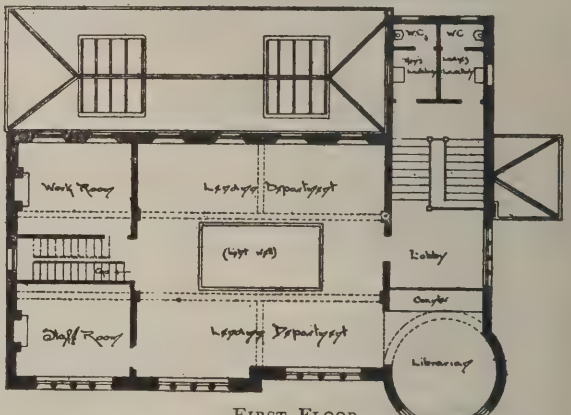
LONDON AND COUNTY BANK, HIGH STREET, WANDSWORTH.

PROPOSED REREDOS, WOOLER CHURCH, NORTHUMBERLAND.

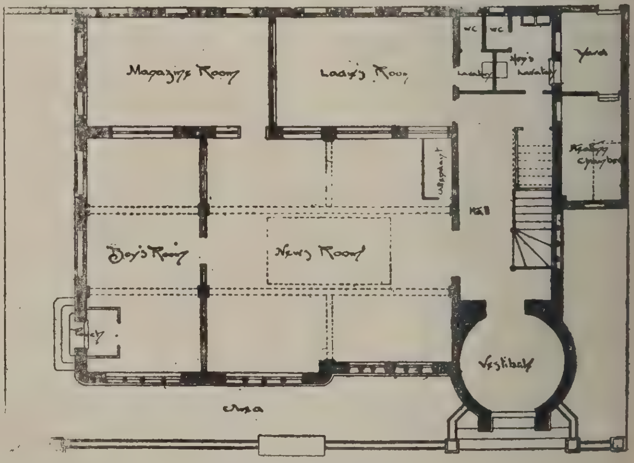
THIS church is situated in the border town of Wooler, under the Cheviot Hills, and in close proximity to Flodden Field. It is proposed to reglaze the east window and to insert traceried heads, and provide reredos with sedilia and communion table. The work will be proceeded with as soon as the Vicar is provided with the necessary funds, which he is now endeavouring to obtain. Mr. ARTHUR B. PLUMMER, F.R.I.B.A., M.S.I., diocesan architect, of Newcastle and Tynemouth, has designed the proposed reredos, &c.

THE TREASURER'S HOUSE, YORK.—VANBRUGH ROOM—DINING-ROOM.

PUBLIC LIBRARY, BALLYMACARRETT, BELFAST.



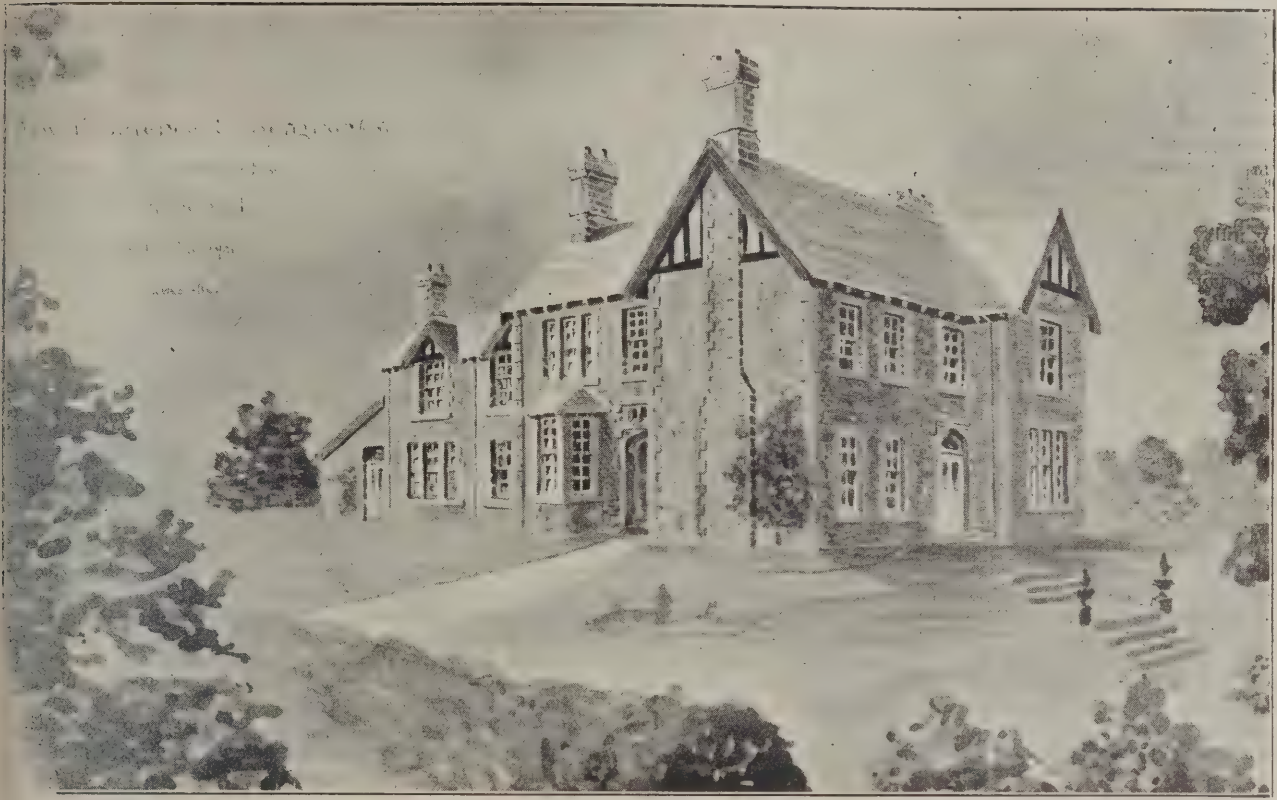
FIRST FLOOR.



GROUND FLOOR.

THE above plans relate to the building by Messrs. BLACKWOOD & JURY, of which an illustration was published last week.

NEW RESIDENCE, SEBERGHAM CASTLE, CUMBERLAND.



THIS house has been built on a site overlooking the Solway and a ravine in the grounds of its owner, Mr. C. J. Wilkinson, M A, and is being occupied instead of the former residence or castle, which had become unsuitable. It is built in a local red stone, the walls being lined inside with brick and cavity. The roofs are covered with green Westmoreland slates. Mr. Black, of Carlisle, was the contractor for the work. Mr. Bell, also of Carlisle, undertook the masonwork. Mr. Arthur B. Plummer, F R.I.B.A., M.S.I., diocesan architect, of Newcastle and Tynemouth, was the architect for the work, which has recently been completed.

THE DELINEATION OF ARCHITECTURE.*

ALTHOUGH I have always held that the practice of opening a paper with an exercise in apologetics brings those who employ this artifice for breaking the ice peculiarly under the ban of the old adage "Qui s'excuse s'accuse," I am constrained to take this occasion to apologise once for all to the profession in Canada, to my future students and to any of the outside public who may find themselves obliged out of politeness to give me a hearing, for the assumption of a university chair by one so wholly lacking in dialectic and oratorical skill as I. A ray of consolation comes to me, however, on reflecting how rarely the natural and artistic instincts are combined in one individual, and it is to the latter that I pretend The best of our profession in England at least are silent folk. In this I find comfort on such occasions as the present

From this circumstance I would almost argue that architectural matters are not fit subject for conversation. I doubt if by spoken words any piece of work has been satisfactorily described by one man to another who had not seen the thing. No written description has ever conveyed the remotest resemblance of an architectural idea to me, and I rejoice that when you did me the great honour of inviting me here we were able to select a subject which would not call for an effort at describing what must be seen to be felt, and this brings me to my first point, which is that a good drawing of an architectural subject is more eloquent of the beauties that be in wrought stone than all the poets and orators, and our business just now is to inquire what constitutes excellence in an architectural drawing—a question, by the way, of no possible interest to the lay mind.

It is almost unnecessary to remind a professional audience that architectural draughtsmanship is a new thing. So recently in the history of our art as the building of the Parthenon in 438 B.C. a set of contract drawings was a thing unknown, far less a set of client drawings and a perspective. The Gothic men drew badly, and when they did not just go ahead and build they used models by way of preliminary studies. The Renaissance architects made moderately good drawings of old Roman remains, but did not rely greatly on drawing for proposed works. Models were found far more satisfactory than drawings, and it is only the cost that prevents their more frequent use to-day.

In the separation of the functions of the builder and the architect we have the real reason for designing by the indirect paper process to the extent we do; and this being a condition past remedy we do well to accept it and consider the draughtsman and his work.

Nothing has contributed more to the development of draughtsmanship than the recent revivals which have taken place of bygone styles which have led to the study of old work by means of measured drawings—the only way old work can be studied. A secondary motive for good drawing may be found in the system of selecting an architect by competition, which rages in England greatly I think to the detriment of our art and the debasement of the profession, but that is a matter beyond the scope of these notes. Sufficient but to point out how much competitions do to stimulate the skilful delineation of architecture if not the art itself.

We have, then, three main classes of architectural drawings:—(*a*) Working drawings necessitated by our professional conditions and the unskilled and inartistic state of the labour market; (*b*) competition and clients' drawings no less intimately connected with our professional systems than the working drawing; and (*c*) measured drawings and sketches which are pre-eminently works of study.

Owing to the way in which picture painting has monopolised the title of art, even some architects have false ideas as to what a drawing should be There are two ways of drawing a thing From the painter's point of view, it is not the thing that is beautiful, but the appearance of it, as Mr Ruskin and others have pointed out. Moreover, his drawing of it is meant to be an end in itself, a thing imbued with some kind of beauty, and it is unnecessary here to analyse the many elements of beauty in painting. How different is the draughtsman's purpose. Who outside the profession cares for the finest elevation that ever was draughted? In the matter of labour, and even in technique, it may rival any painter's work, but when the competition is lost or the building completed it has served its turn, and to do this it is essential that attention be not wasted on an aspect of the building, but upon the facts of the case. An architect may imagine his building in pale pink frosty sunshine or midday glare or silhouetted against an evening sky, but as far as drawing the thing goes it is of no use to him or anyone else to represent it otherwise than as it is—so many masses related by proportions, contrasts, textures, colours. The style of drawing which most easily attains the object of representing a thing as it is as opposed to as it may happen to appear is the best. Having thus made clear the object of the draughtsman, let us consider his materials and technique.

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* An address delivered by Professor Percy E. Nobbs before the Ontario Association of Architects, and published in the *Canadian Architect.*

This we can do in a word. India ink is, and I think will always be, the chief medium for the expression of architectural ideas. Fads for pencil, wash, or brown ink come and go, but the pre-eminence of the great hexagon stick bound up in string is never seriously challenged. In the use of ink a great change has come about in late years. The thin fine line of the last generation has become a lost art, which is a pity, but not wholly to be deplored, for with it has gone the horrid practice of back lining by way of showing the shaded side of things. To-day the English architects draw with a stout line—often far too stout—sometimes a silly affectation, and the reason is a practical one, as we all know. Tracers' eyes are not to be ruthlessly sacrificed. If the ink goes on strong and juicy one can get a sunprint through "Medium Whatman," while if reduced photo-lithographs of our drawings are to grace the sympathetic professional papers what time we are "branded with the infamy of a second premium," as a sporting competition architect has styled it, then a thick, clean and unrubbered ink line will stand us in good stead. Of course thick line drawing to small scales leads to all kinds of impressionisms on the draughtsman's part, so much has to be omitted; a single line in the right place must tell that a three-membered architrave is here proposed, while sculpture can only be indicated by dots, also in the right place. To draw well with a thick line even ½-inch scale is very difficult, and the mannerisms of the skilful are often attempted by the would-be smart draughtsman with deplorable result. A rather wholesome reaction in favour of more refined methods is setting in, but the thick line has come to stay, and the student should learn from the outset to use it, for by long use only can he discover the marvellously sympathetic qualities of thick black ink and white paper.

Especially is this so when we consider the double motive with which the student bends over his board. His success on the lower rungs of the professional ladder depends entirely on his being able to be of use in the draughting-room; while the only way in which he can assimilate any idea of what architectural details, or for that matter anything else architectural, is like, or how big things should be, is by drawing them as they are—plan, elevation and section, even of an acanthus leaf. That is the only way I know of becoming heir to the least morsel of the glorious heritage of tradition in our art.

Mr. Kipling has told us that there are "more than thirty ways of constructing tribal lays, and every single one of them is right." The analogy which exists among the arts here breaks down a little. There are many ways of rendering architecture, and a great many are wrong, but happily we need only deal here with some of the right ways.

The remainder of this paper will practically amount to a comparison between the methods of the students of the R.I.B.A. and the Ecole des Beaux-Arts in Paris, and I venture to hope the meeting will agree with me that the ideal lies between the two.

Before plunging into technical questions of rendering, it is worth while pointing out that a fashion in drawing is very apt to lead to a fashion in designing. I will challenge any man who has worked in an architect's office to look at some of the new buildings in Glasgow and not feel his nostrils assailed by the delicate aroma of tracing paper and seem to hear the rip of the pencil up the T-square and the rattle of the sets. The technique pervading these and many more designs of the Art Nouveau adherents is not the rational technique of stone or even steel. It is the technique of the draughtsman and his tools, not of the builder. It is as if a sculptor modelling in wax for bronze had forgot the nature of bronze in his enthusiasm for his wax.

Coming now to questions of practical draughtsmanship, the relation of accuracy and speed must be considered. Inaccuracy is as inexcusable in a draughtsman as sheep-killing in a collie dog. In the training of draughtsmen it is absolutely fatal to develop the over-painstaking kind of drawing which encourages slow, I would almost say lazy habits. It is here that method in setting about one's work tells. Accuracy and speed are not inconsistent in drawing any more than in whist, and it takes both qualities, as we all know, to make a man worth a salary. This is an important point in considering methods of rendering.

As the object of all our drawing is to present a building as truly as possible in accordance with limitations imposed by scale and medium—ink, soft pencil or wash—we find certain conditions amounting to conventions imposed upon us which it were inartistic not to recognise.

An outline drawing in ink (such as is demanded by the conditions of most competitions in England) must of necessity ignore all question of local colour and shades and shadows, and yet if it fails to convey the idea of mass it is wholly futile. The heavy lining-in of the boundary lines of nearer masses and the thin lining-in of all jointing are tricks which in inexpert hands lead to strange results, but a marvellous amou may be expressed by this means concerning the mass, textu and scale of the work. A great mistake is often made giving undue prominence to the jointing, while the practice jointing little bits here and there is well enough on a workin drawing, but very distracting on a draught which seeks show a committee or a client what is proposed, as there are n outlines of parts on a building as seen, and if we adopt th convention of showing the forms of things by this convenien means, the jointing which is subsidiary and does consist lines should be rendered with a line of very different quality–thin, in pale ink or pencil, as opposed to stout lines to sho form. Some beautiful drawings of neo-Greek work appeare a couple of years ago in the *American Architect* in which thes principles were observed.

In making two lines do the work of three and expres the effect of a moulding, a good deal of insight is ofte required. The practice of breaking the inner lines of moulding has much to recommend it as long as it does n become a mere habit or trick, instead of a means of expressin the several groups or orders or separate pieces of which moulding is made up. To line in the top and left side of a panel moulds and leave the bottom and right side open is convention to impart shadow too crude to be encouraged. is little better than the old back lining to my mind.

In lining in the freehand work of caps or the enrichments mouldings, good steady penmanship without variation in thickness is to be aimed at, for a drawing in line once started mus be homogeneous, or the different parts in close proximity wi appear nearer or further, according to the amount of in lavished upon them.

The fashion of drawing all freehand work in with tremulous or loose line on the ground that handwork shoul contrast with mechanical work, and that error in a shaky lin is not so apparent as in a clean sweep, has, I think, been followed too much. I do not recommend anyone who has th faculty for drawing clean to a small scale to draw shakily o purpose; it might easily demoralise the sense for refinement i the scale of detail.

I have here a sketch of Beverley Towers, lined in wit a laboriously shaky line. There is much charm about th drawing; the effect is quaint and the value of things stunningl well attained, but supposing a man can sketch in the direc way that Mr. Blomfield did for his book on the "Renaissanc in England" he should not affect the studiously shaky line i ink over a careful pencil drawing.

As draughtsmanship is one of the lesser arts in whic individual style has really no great scope, we find extremes o mannerism manifesting themselves instead. The self-consciously loosehanded style is well exemplified in the drawin of the famous font in Siena. There is a little too much sleigh of hand and not enough sympathy for the peculiar character o cinque cento carving to be thoroughly commendable, but the fac is patent that Mr. Fulton is possessed of a rapid and businesslike way of putting down approximate facts. This is a example of extreme, not typical English drawing, and it i unnecessary to say that no academic draughtsman can se much virtue in it, but your academic draughtsman errs quit as much the other way. When mannerism in draughtsmanship of whatever kind gets the length of obliterating instead o sympathetically enforcing the differences between variou subjects rendered, it is time to remember that there is such thing as approximate truth which is not entirely compatibl with meretricious affectations either in speech or drawing.

The drawings submitted annually for the various travellin studentships of the Royal Institute of British Architects affor us excellent examples of English methods, and these sets o measured work from Melrose Abbey, Houghton in Norfol and Aston Hall, Birmingham, will give some idea of faithfu rendering and good workmanlike methods of execution withou undue affectation of technique.

Before leaving this matter of scale drawings in ink line i may be well to call attention to a few of the tricks of the trade which enable us to express, albeit in a conventional way, something of the interest that is in caps and carvings and sculpture. When sculptured decoration is shown it is impossible really to give it its value by uncompromising line-drawing, while i patched shading is resorted to we at once knock the pure line-drawing of the architecture out of time. The draughtsman's method should be to draw the folds of drapery &c, more thoroughly on what may be supposed the shaded side, leaving the strongly lit portions in unbroken white. Cast shadows should be very sparingly employed, and only where the line-drawing fails to convey an idea of what is meant.

As to the crossing of ink lines at corners much difference of opinion prevails. When exaggerated, the tangle of lines quite defeats the object, which is to make it clear what is an arris and what a bead or moulding on a small scale drawing with thick line. When systematically practised and not overdone the crossing of lines makes for rapid work and clearer meaning. I have known cases, however, in which a laborious ıughtsman has gone over a drawing, crossing all his ends to e it a smart look—such second-hand affectation needs no nment here The unskilful draughtsman is very apt to ıw far too much detail on a small scale drawing. We have seen elevations in which the caps of Corinthian columns pear as so many black blotches, while a delicate swag is de to tell with more force than a 3-feet cornice. As the le gets smaller so should the amount of detail sought to be resented.

Turning now to full-sized details, I would here commend the of the shaky line because it is much easier to hold to the e sweep of a curve with a loose than with a hard line. Full ng should be learned by measuring off old work, for only so the sense of the right scale of things which is far more portant than their actual form be attained. For full-size dels of ornament the softest pencils should be used—speed and npathy are to be found in a 3 B. Everyone will develop his n way of shading, but the advantages of point work are rth considering, and here let me say that shadows are not business To my mind architectural details are simply dered misleading by the projection of shadows in the aux-Arts manner. That is encroaching on the painter's rogative, to represent things not as they are but as they k or might under unlikely circumstances be imagined to k. To detail ornament then we must ignore all the cast dows. The projection we purpose can be given by sections. e modelling of surface can only be rendered by shading, so us adopt the most adaptable method of doing this. I have eady said "shade with the point," and I must add, and "do t rub the paper into a grey scumble." Clean single hatching the fastest and most suitable of methods. Three ways of ferentiating values are inherent in this kind of shading and y make for sympathy in rendering as well as direct and eedy execution :—(*a*) By the wider spacing of the lines any gree of change may be attained. (*b*) By the use of heavier es any tone can be presented. (*c*) By the direction of lines w of surface can be indicated.

The simpler and more direct the method to which a ughtsman confines himself, the greater dexterity will be ained in it. The intrinsic beauty of shading outright ce and for all with a single hatching is that so much transency can be got into the shaded surfaces, and with practice y degree of delicacy or violence in modelling can be disctly set down.

I have here two interesting drawings by an old and sucssful rival for R.I.B.A. honours, Mr. Bennet. In the pencil wing we have things as they are, in the wash drawing ngs as they look. Suppose the thing were not in existence cept in an architect's mind. There is no doubt about which the drawings would lead to the better execution. The line wing not only tells far more, but it required greater skill to duce. Blinded as we are by all pervading ideals of the ture painter, we are possibly more attracted by the wash awing, but looked at closely a photograph would give us as ich, while no photograph could give what the less imposing e drawing conveys of how the effect is got to those who ow. I am bound to say that in my opinion the wash awing should never have been made. In technique it is far tter than most of the washwork we see in water-colour hibitions, and it is gratifying to possess a copy of it. Faithly and lovingly it was done, but why should time and skill perior to that of the very carvers who did the original be ished upon what any photographer could turn out? Mr. nnet was a student both of the Royal Institute of British chitects and the Beaux-Arts, and the happy circumstance of two drawings in the two styles has suggested to me this mparison, which I hope will lead to a discussion. As the aux-Arts methods of draughtsmanship obtain in all the other chitectural schools on this side the question is of great inest to me.

And here lest I be for a moment misunderstood let me say at my admiration for French draughtsmanship is unbounded. ese Prix de Rome drawings by students of the Beaux-Arts eak for themselves. The delicacy, insight, knowledge and ill of the French draughtsman is something on an altogether ferent level from our rough English work, and I can only vy him his clever fingers. There is much that the English aughtsman would do well to copy from his French brother, pecially in the matter of showing nearer and further portions a building in different strengths of drawing, though I think at scientific sciography is a mixed blessing in an architectural awing. The French as a nation do draw better than we do, is born in them more or less, and if our English architectural ıdent were to be trained to the same standard of draughtsanship I fear he would never learn very much architecture. oreover, when an Englishman draws at all well he is apt to all other architectural accomplishments take care of themlves.

Putting questions of time and money aside, I am bound to ate my own preference for the omission of cast shadows even competition drawings, although I seldom leave a drawing raw from the inking in without putting in thin washes to emphasise or reduce the values of various parts. This conventional as opposed to scientific sciography is apt to tempt the draughtsman to make things look as he would like them to, not as they really would, but, on the other hand, the over-scientific methods seem to spoil the scale of the drawing. The most important thing to realise from a drawing about a building is its size. The profusely shaded French drawing is apt to look so real on the paper as to suggest a drawing of a little model, not a flat drawing of a very big thing (for even a small house is a very big thing).

In a detail for Mr. Tapper's design for Liverpool Cathedral an attempt was made to render the plans of various parts by tones of colour and without any sciography. The drawing was 7 feet long to ½-inch scale, and I think a better idea was given of Mr. Tapper's huge conception than if the great masses had been broken up by cast shadows. Even in sketching the architect must ever pay more attention to the thing as it is than the thing as it looks, and I am often amused by the attempts of picture painters to render architectural subjects without searching into the real nature of such things as crockets and double ordered tracery and bed moulds of cornices. Many otherwise fine etchings and engravings fail adequately to get the spirit of architectural subjects simply for want of scholarship

I have here three beautiful pen-and-ink sketches by C. E. Mallows, A. N. Prentice and Reginald Blomfield. In all there is evidence of tremendous skill in epitomising things they know. It is only an intimate knowledge of English crocketed pinnacles that makes it possible for Mr. Prentice in a few dots to get the very life and soul of St. Mary's, Oxford. Mr. Mallows indicates his brick-and-tile texture with that sympathy born of knowledge of the thing as it is as well as power to render it as it looks, while Mr. Blomfield's dashing line might be envied by any pictorial artist to whom drawing is more than an incidental professional requirement, Perhaps the most brilliant English draughtsman is Mr. Joass, who links the last generation to our own An immense appreciation of details as they are have combined with long and arduous practice to give him a felicity of expression which I can only describe as eloquence in drawing. An unfortunate result of his dexterity has been that in a thousand offices his every trick and mannerism is being imitated. It looks so easy to leave all the setting-up lines in a perspective where they are, and swim some vagrant washes of mellow colour upon a sheet of ochre-tinted paper and thereby produce the solemn joyfulness of one of Messrs. Bodley & Garner's great church interiors, with its stately dossal and diapered altar frontal glowing in the amber light which percolates the stained and traceried windows. As to free sketching, however, to the architectural student I would say "beware how you sketch." The more the ego with the skilful hand is suppressed and the more the building with its peculiar qualities is felt, the better. We sketch to understand, not to sell. I doubt if any man whose sketches have attained to any character and intrinsic beauty modelled his work on that of others. If a sketch is begun as it often happens with the preconceived intention of making it look like something we have seen elsewhere, the texture, quality and colour of the materials to be represented will have a poor chance.

Peter de Hooch was in many ways the greatest of architectural renderers, and though his technique is quite out of the question for practical purposes, his spirit is wholly worthy of imitation. How he revels in the beauty that is in brick walls and tiled roofs and paved courtyards. Behind his painting of things as he saw them in golden evening light there is the knowledge of the thing as it is.

Before leaving this question of architectural sketching I should like to say that it is rather an ornamental accomplishment. Just the other day I was talking over some sketches at the R I B A. exhibition with Mr. Prentice, and he rather surprised me by saying his Spanish sketches which are so justly famous were a waste of time, and regretting that he had not measured more and sketched less while in Spain. It is after all by measuring existing work, and by no other means, that the student can get the real relation between the thing on paper and the thing in stone or brick.

I think I have now said and shown enough to make it clear that there is a distinctly English school of architectural drawing with characteristics of its own, very different from the academic or Beaux-Art practice which has been adopted almost everywhere else. The besetting sin of the English draughtsman is affectation, but really fine originality is occasionally met with. The Ecole des Beaux-Arts men, on the other hand, all draw so nearly alike that individual character has no chance. On the other hand, their average work is far better than the average in England.

What I have said of French and English draughtsmanship holds equally of French and English architecture. In France there is a school of work and a very high average of attainment, while in England there is no body of tradition. Every man works with such traditions as please him, and he is not taught to make his selection. The result is a deplorably low general average, redeemed, however, by a few really great men whose names will go down to posterity with the great roll of "those who fought and sailed and loved and made our world."

In closing, I should like to remind my hearers of the peculiarly subordinate importance of this question of architectural drawing. Once on a day men built far better than they drew. Now it is the other way. Few buildings ever look so well as the drawings promised, and I would go the length of saying that what looks well on paper will certainly not do in execution. Alas! that the converse of this proposition should not hold good, else the secret of how to design were easy of solution.

ENGLISH DOMESTIC AND MILITARY ARCHITECTURE.

THE fifth of the series of University extension lectures given in Salisbury by Mr. W. H. St. John Hope dealt with the buildings of the fifteenth century. They were specially adapted to the times. Their arrangement was not the invention of a master mind, but a process of evolution which from independent lines coalesced in a general plan At this period the people showed an advance morally and socially. The dependents ceased to look to their lord for shelter, and the labourers had houses of their own. It was not necessary to keep a large number of retainers, so that the great hall where master and servants dined together was no longer needed and gradually fell into disuse. The solar or great chamber was enlarged and used as a withdrawing-room for ladies, while dormitories were built over the hall itself. A prominent feature of the fifteenth century is the bay window of the hall—occasionally there were two, one at each end; the recess formed by this window contained a sideboard, or in some cases a passage leading to rooms behind. Sometimes the bays do not reach the entire height of the hall, but only go half-way, and there are many examples in the West of England. The oriel window also made its appearance about this time; it is semicircular in shape and projects from the house. These windows are beautifully ornamented, and sometimes were the only adornment on the outside of a house Somerset is a county specially rich in houses of the fifteenth-century type, such as at Tickenham and Kingston Seymour, near Clevedon; while in Wiltshire the fine old manor-house of South Wraxall, Place House at Tisbury, Woodland Mere, and the manor-house at Great Chalfield, are remarkable. In Gloucester, where there is good stone to be had, stands Icombe Place, a very complete fifteenth-century house, showing diminution in size of the hall, the fireplace in the wall and absence of seats to the windows There was still a continuance of half-timber houses, especially in counties like Lancashire, where there was a lack of good stone. Of ecclesiastical buildings of the time the Deaneries of Wells and Carlisle are good examples, while to the small parsonage-house type belong Congresbury Rectory and Chew Stoke, in Somerset. A remarkable and picturesque building is the Vicars' Close at Wells, which consists of a street of houses twenty-one on each side, with a chapel at one end and a hall at the other. Castle building began to go out of fashion in the fourteenth century, and still continued to do so. The introduction of gunpowder and firearms rendered the old style of fortifications useless, so that the gatehouses, walls, &c, were built rather for ornament than use. On the Welsh borders, however, and where there was likely to be trouble, more fortifications were used, and Raglan Castle, in Monmouthshire, still has something military about it. There is a large tower, separated from the other part of the building, and the castle owns one of the finest gatehouses in the country. At Warkworth Castle, in Northumberland, is a very peculiar building of the early part of the fifteenth century; it appears like eight towers built into one. The walls are very thick at the bottom but thinner towards the top, allowing of more accommodation, and rooms are built round a small court or lantern which extends the whole height of the tower. Peles were still built in the North of England, or where there was danger of freebooters. Tattershall Castle, in Lincolnshire, is a wonderfully beautiful erection of brickwork dating 1433-55. It is in the form of a tower 116 feet high, and stands in a lake quite apart from other buildings, and is approached by a drawbridge. It contains four floors, and in one of the rooms a fireplace is preserved which has carved upon it, among other devices, a treasurer's purse, its builder being Ralph, Lord Cromwell, who was sometime Lord High Treasurer to Henry VI. Fortified gatehouses continued to be built all through the fifteenth century, and one of the finest of the kind is to be seen at Canterbury. The gatehouse at the Bishop's Palace, Norwich (1430), is also good, and has two gates, one for carriages and a smaller one for foot passengers. The original use of the hall had disappeared except in monasteries and kings' and bishops' palaces, where
large numbers were entertained, and additional chambe
were now built on, which formed wings. From the tw
storeyed houses introduced by the Normans came the L or
shaped buildings which finally ended in the quadrangle
courtyard type. To this kind belongs Haddon Hall, datin
from the fourteenth century to Elizabethan times. The chap
of the Norman period contains furniture of the seventeent
century, and the Hall itself is a perfect museum of old work
all kinds. Wingfield Manor is another example of this styl
built by Ralph, Lord Cromwell, and having his badge of offic
the treasurer's purse, carved upon it. Unlike Tattershal
however, this house is built of stone. Hever Castle, in Ken
built by an ancestor of Anne Boleyn, and Oxburgh Hall, i
Norfolk, are other examples The people now became bette
off and the town houses began to improve. Many were sti
built of wood—with overhanging storeys—and there are a numbe
of examples in Salisbury, an especially good one being i
Minster Street. According to a contract made in Henry VI
reign, a house to be built in Salisbury was to cost 20*l*, whic
if multiplied by 30 would give an idea of its value in money
the present day. To town houses built after the hall fashio
belong Crosby Hall, in London, now used as a restaurant, an
the Halle of John Halle, in Salisbury, which though smalle
than the former, is a good specimen. Audley Mansion, now use
as a church house, is also very good, but Mr. Hope lamented th
scarcity of photographs of these ancient places. Views of th
cathedral or Stonehenge were plentiful, but photographs
ancient houses, such as Audley Mansion, were not to be had Th
guildhalls of some towns are of Mediæval times, and the one a
Coventry which belonged to St. Mary's Guild is in very perfec
condition. Interesting work is often found at ancient inns
such as the George inn, Norton St. Philip, which is half timbe
and the George inn, at Glastonbury, which is true fifteenth
century work, having been only a little modernised. Crosse
were often erected near markets as a centre for trade in thi
city and also one at Chichester dating early in the sixteent
century.

CANTERBURY CATHEDRAL.

ON Thursday evening, March 17, Professor R. Else
Smith, A.R.I B.A., delivered a lecture to a very larg
audience at Carpenters' Hall on Canterbury Cathedral, whic
was illustrated by a fine series of lantern photographic view
and plans. The Very Rev. the Dean of Canterbury, wh
occupied the chair, explained in the course of his introductor
remarks that the lecture was prepared and intended to b
delivered by the late Professor T. Roger Smith, who died
year ago deeply honoured and respected, and that it devolve
upon the son to give the results of his father's eminentl
faithful studies on the great cathedral.

The lecturer commenced by saying that Canterbury, whic
is conspicuous as the seat of the Primate of England, ha
sufficient peculiarities of plan and structure to make it a ver
interesting object to the student of architecture, and so muc
magnificence and beauty as to captivate those in whose mind
it is only an object of admiration as a great work of art or
respect as a venerable pile. Entering by the gateway whic
stands to the south-west of the structure, the visitor gain
his first complete view from that quarter, and it is n
easy to imagine a finer architectural group than is pre
sented to the eye. The great tower at once rivets attentio
and the pair of western towers, with the gable joinin
them, and the attached porches, form a noble mass. At a tim
when Gothic architecture was becoming extravagant and over
florid in other countries, in ours a style which admits of grea
dignity, sobriety and order was developed, the style
Henry VII.'s Chapel, Westminster, of King's College Chape
Cambridge, and of many noble monuments. That was pre
eminently a tower-building age, and the central tower
Canterbury, like that of Gloucester, is a marvel of dignity an
fair proportions. The sense of height and upward tendenc
given to it by the many vertical lines crowned by pinnacle
the air of strength due to the shady recesses at the corner
and the lightness due to the large amount of window space an
tracery between these corners form a combination of muc
beauty. The great idea of a pair of lofty windows in the belfr
stage and a pair slightly different in the lower stage is ver
simple. The working out is both rich and complicated, an
the sky-line of this tower—not intended to carry a spire—
is extremely happy The western towers (of which th
northern one is modern) are designed on very differen
lines, and were the two masses of masonry not far apart
might almost clash, for these towers are surrounded by a multi
tude of buttresses having great projection at the base so as t
form something like a pyramidal mass from whatever point
view seen. The sky-line again is splendid. The wester
entrance—rarely used—and the south porch partake of th
unfortunate English modesty. There is only one fine entranc
doorway to any English cathedral, that at Peterborough

the splendour of such portals as the west one at Amiens or such porches as the south one at Chartres never stirred our Mediæval architects to emulation. The entrances to Canterbury are mean.

Canterbury is marked by the peculiar form of Norman architecture which part of the building displays, the part, that is to say, which dates from soon after the Norman Conquest, and it is also marked by the French peculiarity of plan, viz. a chevet, or eastern apse, surrounded by small chapels. Further, its treatment, *i.e.* its columns, windows, carving, &c., of a rather later date is essentially French and not English; this is due to a French architect having been employed. Lastly, there is an entirely original and unusual development of plan at the east end which will arrest attention for a little. Note the four points:—(1) Exceptionally early Norman work; (2) the French plan of the east end; (3) French treatment, and (4) a quite exceptional choir. After describing other parts of the building the lecturer paused to examine the plan of the cathedral, and to give something of its history, together with a graphic description of the murder of Becket, the result of which was that he became canonised as a saint, and the devout travelled from every part to pray at his shrine. None came empty-handed, and the discovery of a gold mine in the cloisters could hardly have more rapidly or easily filled the coffers of the monks. Then in 1538 the Royal Commission for the destruction of shrines arrived with Henry's warrant, and to those who are interested in the fabric more than in anything else it is a matter of profound congratulation that the end came when it did. Had the income and the special gifts and the unreformed service continued for another half-century, there is little doubt that young archbishops or deans of thoroughly modern tastes would have thought the eastern end of the cathedral old-fashioned and out of keeping with the remainder, and would have proceeded to rebuild it in the taste of their day, thus robbing posterity of one of the most interesting architectural groups which has come down to us.

After referring to the calamitous fire which practically destroyed the whole of the glorious choir of Conrad in 1174, the lecturer told some interesting facts about the rebuilding of the fabric by the French architect, William of Sens, and showed two ground plans, one representing the choir of Conrad as it was before the fire, and the other the various alterations made in the plan during the rebuilding. After alluding to the accident which befell William of Sens and the completion of the work by English William, "small in body, but in workmanship of many kinds acute and honest," the further history of the church was thus summed up:—The golden stream continued to flow in, and in 1378 Prior Chillenden pulled down the nave and transepts and west front and rebuilt them in the early Perpendicular style. This work appears to have been completed about the year 1410, and in design it in many respects resembles the contemporary work which was being carried out in the nave of Gloucester Cathedral at the time. About eighty or eighty-five years later the magnificent central tower was carried up by Prior Goldstone, as we now see it. Only two other changes deserved to be mentioned. The first is a singular one. Prior Chillenden, in rebuilding the west front, had left part of a Norman tower standing; in 1835 this was taken down, and the present north-west tower erected. The other was the construction of a heavy, exceedingly ugly top to the corona, which it would be a charity to remove.

After showing several photographs, the lecturer concluded by saying that nothing can well be more dignified or peaceful than the present aspect of Canterbury Cathedral. It is shut in from the rush and bustle of the outside world by the magnificent and extensive grassy close which surrounds it. Here and there is seen a large and dignified canon's house, and here and there a group of venerable trees. All this seemed to offer a striking contrast to the disturbed and distracted story narrated. Sacked in the eleventh century, burnt just after the Conquest, no sooner rebuilt than the presbytery was pulled down to make room for a larger—the scene of perhaps the foulest murder in English history, and unquestionably of the most debasing penance that any English king ever underwent; once more destroyed by a disastrous fire; then for about three centuries the most popular resort of pilgrimage in Europe—with its great days when, it is said, 100,000 visitors would assemble (making it like a Crystal Palace on Whit Monday), its princely worshippers and its *débonnaire* excursionists; then the crash when, in 1538, the Lord Cromwell destroyed all the splendid fittings of the interior—an interior probably as bright with gold and jewels and shrines and colour as the most elaborately finished cathedral that can be found at the present day in France or in Germany. There was another reforming visit in Oliver Cromwell's day, when his Commissioners occupied themselves in breaking all the fine stained-glass windows which they considered idolatrous. Fortunately they allowed a good deal that is interesting to escape. All this was comparable to nothing so much as a threatening and lowering morning, going through all the fierceness of a stormy day, and yet, having spent itself before nightfall, closing with a peaceful and serene sky.

After the lecture the Dean of Canterbury stated that there were about 40,000 or 50,000 persons who visited Canterbury every year simply for the pleasure and instruction it afforded. The extraordinary interest manifested was owing to the fact that the cathedral presents a continual growth, coinciding in that respect in a very remarkable manner with the whole English nation. Incidentally he mentioned that the Bell Harry Tower now requires very great reparation, and it was a matter of expending several thousand pounds. He concluded by expressing his hearty appreciation of and gratitude to Professor Elsey Smith for the interesting lecture which had been given, and the proceedings were brought to a close by a hearty and well-deserved vote of thanks to the lecturer.

SUSSEX ARCHÆOLOGICAL SOCIETY.

THE annual report of the Sussex Archæological Society states that the number of members on January 1 was 682, as compared with 655 last year.

The Council in the autumn received an intimation that the Castle Lodge in Lewes, which had been occupied by the Society since the year 1885, had been sold to Mr. Dawson, and a notice to quit at Midsummer 1904 was soon afterwards served by him on the Secretary. This purchase by one of our own members and its consequences took the Council completely by surprise, as it was understood that if the property was to be sold the Society should have the option of acquiring it. The provision of suitable premises for the future is receiving the careful consideration of the Council, and negotiations are now in progress for obtaining a piece of land on which a new library, museum, caretaker's rooms, &c., can be erected. The Society will, however, have to raise a sum considerably beyond its invested fund (about 600*l.*) in order to provide adequate accommodation for its books, &c. The Council, however, hopes that, if a site can be secured, the members will do their best to make such new buildings not only more convenient than those they have been renting for the past nineteen years, but more worthy of the Society and the county. A certain amount of trouble and inconvenience must be caused by the removal of their property and housing it in temporary premises.

The Council deeply regret that their protest against the nature of the "restoration" of the nave and aisles of Walberton Church has not met with success. Two members of the Council, who were deputed to examine the proposals, reported that they were of so destructive a nature that they amounted to a virtual rebuilding. The various archæological points of interest in the church have now almost entirely disappeared. The Council, in view of these facts, feel it to be due to the Sussex Archæological Society that this protest should be placed on record. The Council has much pleasure in stating that necessary repairs are about to be undertaken at the church of St. Thomas à Becket at Winchelsea, and no doubt, under the able supervision of Mr. Micklethwaite, they will be carried out in a true conservative spirit, so as to preserve the ancient work in this most interesting church, and the Council commends the same to the members. The market cross at Chichester being much decayed, the necessary repairs were taken in hand by a local committee, and are being executed in accordance with the advice given by gentlemen nominated by the Society of Antiquaries. The work has been done in a most satisfactory way. At Chichester Cathedral it is proposed, as a memorial to Archdeacon Mount, to repair and reinstate the Perpendicular altar screen of oak, which was partially destroyed in 1759 and wholly removed in 1866, when the existing reredos, which is acknowledged to be out of character with the building, was substituted. The work will be carried out by Mr. Somers Clarke, F.S.A., and is well worthy of support by our members.

The Council feels that some reference should be made to the lamentable destruction of documents and pictures illustrating the history of one of the oldest of Sussex families in the disastrous fire at Knepp Castle. The loss of Timothy Burrell's Diary (of which a large portion is printed in Vol. 3 of the Collections) and of the Burrell pictures (some of which were fortunately photographed for a paper in Vol. 43) is especially to be regretted. The Council would take this opportunity of urging on those who are in possession of such priceless heirlooms to employ every means of preserving them from fire, and to also have the contents of such MSS. calendared or copied. The Council has acquired nearly 400 large size negatives of churches and objects of interest in Sussex. Many of these are of great value, as showing churches before restoration. A committee has been appointed to endeavour to arrange for and carry out a photographic survey of the county on similar lines to those adopted by Warwickshire and Surrey. Mr. J. C.

Stenning has been appointed the hon. secretary to the committee, and invites the active co-operation of our members. On working out the general plan of Lewes Priory, Mr. St. John Hope and the hon. secretary are not satisfied that the centre line of the great church has been yet accurately defined, and in order to endeavour to settle this question some few trenches are required through the site of the choir. It is hoped that arrangements will be made to carry this out during the year. The Duke of Norfolk has kindly given permission to the Society to clear away the overlying ground from the ruins of Tortington Priory, so as to obtain a perfect plan of the monastic buildings. The Council expresses its thanks for the kind permission, and proposes to take this work in hand as soon as funds are available for the same. The Council learns with much pleasure of the purchase of Hollingbury Camp by the Brighton Corporation, which will be preserved in its original state. Visitors to the castle during the year numbered 6,132.

Regret is expressed at the losses by death sustained during the year, and a special tribute is paid to the usefulness of the late Mr. Latter Parsons. The statement of accounts shows that in a total income of 510*l.* 15*s.* 4*d.*, 317*l.* 14*s.* 1*d.* was due to subscriptions, and 139*l.* 18*s.* 6*d.* to visitors' fees on admission to the castle. The expenditure was 504*l.* 1*s.* 5*d.*

THE ITALIAN VILLA IN AMERICA.

THERE is a likelihood the old English country house will be superseded in the United States by the Italian villa with its statues, termini, detached columns, &c, as a type of the residence which busy men will have erected for their accommodation when they are able to escape from towns. We recently reviewed two American works on Italian gardens which indicated the new tendency. One of the architects who have made a specialty of the Italian villa is Mr. Charles A. Platt. The *Architectural Record*, in describing some of his works, gives the following explanation by Mr. Herbert Croly of the reasons for preferring that form of building :—

American architectural practice has pretty well decided that the safest and most fruitful kind of work which the good American architect can do is that of continuing in this country the great European architectural tradition American criticism agrees on the whole with this practice, because it realises that in a country which a generation ago was an example of fearfully perverted popular architectural taste, the educational need and purpose should in the beginning determine the prevailing forms. After the architects have become accustomed to designing, and the public have become accustomed to seeing good architectural forms, it will be time enough to demand that these forms be modified, with a special view to giving them a higher degree of individual, local and national propriety.

The trouble with the first generation of well-trained American architects was not that they were imitative, but that they were perhaps rather too indiscriminate in their imitation. They tried experiments in too many styles, and did not cleave with sufficient assiduity to the architectural types most appropriate to their work and to their individual powers of design. Doubtless they had a sufficient excuse for this eclecticism, in that they could perhaps learn only by such experimentation just what architectural forms took and served best in the undiscovered country of American architectural achievement, but the experimental character of the work not only condemned it frequently to a lack of propriety, but it confused popular taste and prevented architects from appropriating the promiscuous forms they used. At any rate, there can be no doubt that the next step in the regular improvement of American architectural practice must consist in the more careful selection by the individual designer of his favourite architectural forms, and the persistent endeavour to give to these forms a more individual and local rendering. That at least is the step which the well-trained architects of the younger generation are now taking. They are experimenting within much narrower limits than formerly ; they are converging upon the selection of a comparatively few of the best architectural types, and they are showing an increasing freedom and an increasing consistency in the treatment of those types. It will be a still further improvement in architectural practice when the field of selection is made even narrower, and when the few favourite types become by constant repetition so familiar as wholly to lose their novel and experimental character.

It is in the light of this general tendency of American architectural practice that the work of Charles A. Platt can be most profitably considered. He is one of the younger architects who has made his mark in the last few years, and whose designs show plainly the influence of the selective ideal They are derived from the best sources, but not from all the best sources, the area of choice being restricted by a strong con- [illegible] at only certain architectural forms are well adapted to the kind of work with which Mr. Platt is particularly identified. He has not consequently gone outside a comparatively few types of designs, all of which have their historical and logical relations one to another. These several types of design he has used so persistently and has studied so carefully that he is fully acquainted with their possibilities and values.

Thus he has been able to treat them with an ease, a consistency, a propriety and an effect to which he could not have attained had his principle of choice been more eclectic.

The department of design with which Mr. Platt is particularly but by no means exclusively identified is that of the country house and garden, and it is in this department that his work has been most influential and most original. If Mr Platt did not actually introduce the Italian formal garden into this country, he most assuredly has given the American version of this very beautiful and complete type of landscape design a new meaning and a higher standing. He had the peculiar advantage of being able to approach landscape design, not as a man whose training was exclusively architectural, but as one whose interest in garden design sprang directly from the observation of nature and a thorough professional familiarity with landscape values. He was a landscape-painter before he was an architect, and he made a special study of Italian gardens before he ever attempted to design them. It may seem surprising to people who are the victims of the supposed antithesis between "naturalistic" and formal gardens that a man who had achieved high success as a landscape-painter, and whose great distinction consists in his appreciation of the proper landscape values, that such a man should be particularly identified with the better establishment of the formal garden in this country ; but in truth the antithesis between the formal and the "naturalistic" garden is one which arose only during a recent period, when the "formal" garden as transplanted to England became rigid and stiff. The Italian gardens, formal as they were, were designed with an eye strictly to landscape values, and constitute without doubt the supremely happy blending of architectural propriety and out-of-door feeling. They are the original and Classic type of garden from which the French and English gardens are descended, and to which we must return for the spirit and principles of the best landscape architecture.

The Italian garden was, however, only one aspect or division of Italian villa architecture, and the historical point of departure from which Mr Platt's work is to be considered is that of the Italian villa of the Renaissance as a complete residential type. These villas occupy an important and definite place in the history of Domestic architecture, because they embody the first great residential style of the modern period, and because they were designed by a people who in their great time came nearer than any other modern people to the Classic love of formal beauty and to the Classic sense of propriety in form. This ability to imagine appropriately beautiful forms received one of its most consummate expressions in the villa architecture of the period. We are apt nowadays when we think of the consummate country house to recall instinctively certain memorable English examples, but on the whole the English country houses and estates derive their value as models from the evidence they afford of constant and loving attention, from the extent to which their surroundings have been encouraged to grow up around them than from any especial excellence of design. The English country house is a concrete embodiment of the whole history of English country life. It has been confirmed by time and precious association rather than by original architectural genius. In the Italian villa, on the other hand, the attempt was consciously and successfully made to design a kind of house which would fit the landscape closely, and to lay out the grounds so that they would enhance the effect of the house The result is a type of Domestic country architecture which even in its decay possesses a wholly unique beauty and charm.

It is worth while to pause for a moment and consider this type, not only because of its bearing upon Mr. Platt's work, but because of its peculiar value under contemporary American conditions. These villas, like the American country house, were not intended for people resident on the soil ; they were intended as the occasional country habitations of highly-civilised gentry, who, in income and tastes, were the product of the city life. Now the Italians, like the French, are candidly and consciously civilised, if civilised at all. When they go to the country they carry with them their civilisation, their artificial and artistic demands ; they do not go to the country in order to return, so far as decency permits, to a state of nature ; and they do not feel any incompatibility, when in the country, between the formal treatment of the immediate surroundings of the house and the informal beauties of the natural landscape. What they ask is that their country residences should give the finest and fullest opportunities to enjoy the various pleasures of country life, and that that their houses and grounds should be frankly expressive of this demand. Among these pleasures would be included the pleasure in a beautiful landscape, with which the house would compose and which could be seen to good advantage from the house and garden; the pleasure in flowers and in the grouping of plants and shrubs so as to make a convenient and effective show; the pleasure in various country sports, which in those days consisted mostly in hunting, and in ours mostly in games; the pleasures of a hospitality and of the opportunity to entertain one's friends; and finally, the pleasure of leisure, of freedom from insistent pre-occupation with affairs, of the chance for a little quiet reflection and refreshment.

The Italian villas and estates satisfied to a greater or smaller extent all of these demands, because they were built for men of great wealth, of large ideas and of a uniform standard of culture; but in attempting to transfer the type to this country an American architect would be immediately confronted with the fact that his clients included people of large and of small resources, and of high and of low æsthetic demands. Mr. Platt, like his professional associates, has been obliged to meet the difficulties inseparable from the attempt to adapt an elaborate and exacting architectural type to the widely varying resources and tastes of an American *clientèle*. He has had during his practice all sorts and conditions of work, including a number of small frame and stucco houses, situated for the most part in the Cornish Hills of New Hampshire; and these smaller places which he has designed are peculiarly interesting, because he has evidently bestowed upon them, irrespective of their cost, a great deal of careful consideration. The attempt has obviously been made, for instance, to lay out small estates, which shall possess a certain completeness of effect. The architectural lines of the houses have been carefully designed, so that the structure takes its proper place in the landscape; the look of the landscape from the house has been as scrupulously considered as the look of the house from its various lines of approach, and almost every place has its properly situated garden, and its appropriate scheme of landscape treatment. Of course, so much work could not be done at a small outlay, except by the use of cheap materials, such as wooden walls and columns; but the difference in the result is fundamentally a difference in the permanence which this result obtains. The wooden walls will not last; they will have to be replaced eventually by a wall made of some more durable and structural materials; but in the meantime, like the plaster colonnades of a World's Fair, they have served their purpose. They have enabled the architect to make valuable experiments as to the best means of obtaining certain desired effects; and what is equally important, they have aroused the æsthetic interest and pride of the owner of the estate. Moreover, the experiments in cheap materials may well have an additional advantage in developing methods whereby comparatively permanent results can be secured in cheap materials. In spite, therefore, of the fact that the demands of a complete design obviously strain the resources at the architect's command when those resources are small, it remains true that these frame houses are legitimate examples of formal treatment, quite within the reach of people of good taste and small incomes, yet not pitched on a scale incongruous with the appropriately modest demeanour of a small country place.

. . . . . .

As applied to modern work the word "Classic" has practically come to mean one or all of several methods of sacrificing architectural propriety and individuality to some kind of rigid and irrelevant formality of design. This use of the word has its justification in the character of most of the neo-Classic buildings erected during the last century. The adoption by the architect, particularly the American architect, of the Classic forms has generally placed upon his imagination a charge which distinctly he could not afford to pay, and while this charge has not always left him bankrupt, it has frequently left him artistically very poverty-stricken. Some architects have used the Classic forms in order to obtain at any cost a grandiose and stately effect. Others have tried with much assiduity and care to avoid this pretentious and florid inconsequence, but have succeeded only in imparting a cold reticence to their buildings and an inconspicuous refinement to the detail. It has seemed at times that the attempt, not merely to use the Classic forms, but to obtain the Classic quality, could not result at its best in anything better than an impersonal impeccability of design.

The consequence naturally is that in the minds of many people an antagonism has been created between any suggestion of Classicism in architecture and the use of those styles which lend themselves more easily to free personal expression. The Classical is identified with the unnatural and the inappropriate, while other styles which break freely into picturesque forms are supposed to possess the original personal and vernacular quality. The architect who purveys the Classical thing is considered to have sacrificed his chances of individual expression to a lifeless architectural convention, which even, if sincerely and intelligently adopted, condemns him to a mere frigid correctness of design.

It may be said in favour of this statement of the antagonism between the Classical and the personal quality in architecture, that it is assuredly much easier to imprint a personal stamp upon the so-called freer architectural forms than upon those forms which have been derived directly or indirectly from Classical antiquity; but although it is easier to handle the more fluid forms, and although a smaller talent can use them without incurring the same heavier penalties in case of failure, it is absurd to identify the free use of these fluid forms exclusively with the personal quality in architectural design. If the personal quality is more conspicuous, when embodied in such forms, it is only because this quality is obtained under such conditions at a smaller cost. To give a personal note to a Classical composition requires more careful study and a more strictly architectural imagination, and when achieved the result, as we shall see, is of higher value.

Disregarding for the moment the relation between structure and design, the Classic quality in design is so far as appearance goes, the strictly architectural quality—the quality which makes for completeness of form. It is an utterly different thing from the impersonal impeccability of design, with which it is frequently identified. Every architect who has been thoroughly trained should understand the value of the different elements which make up an architectural composition—the value of mass, of proportion, of scale and of light and shade. Such understanding goes to the making of the Classic quality in style; but an additional gift is needed, which is, nevertheless, the whole thing. This additional gift may be defined as the ability completely to compose these elements—to give measure and balance to the whole design, so that every part of the building, every condition of its use and site, will contribute to a single, consistent and appropriate effect. This quality is in a sense independent of the models from which the actual forms are borrowed. It may be as present in a Jacobean manor-house as in an Italian palace. While an architect may and should have his well-founded preferences, the most important point is not that certain special forms should be used, but that the strictly architectural merit of complete form should be resident in the building, and should be the constructive influence—dominating expression, materials, proportions and style.

Of course, this Classic quality in design is not the whole thing. It is the quality which rather helps an architect to work out an idea than helps him to originate one; but it is no paradox to say that at the present stage of American architectural development the man who can work out good architectural ideas with success plays a more useful part than the man who has more originality but less power of patiently achieving the full effect of his conception. Every successful solution of an architectural problem must be the result of some power of original vision, because every architectural problem has to satisfy peculiar conditions; but as long as an American architect is sufficiently flexible in his working ideas to meet a new problem with a new solution, he need not bother himself about any other kind of originality. His effort and purpose should rather be to develop most conscientiously the ideas of which he is possessed, and the forms which he has mastered, so that his buildings will possess the quality of technical completeness—of formal perfection.

Correspondence

Building By-laws Reform Association.

SIR,—As Mr R. A. Read, the honorary secretary of the Building By-laws Reform Association, has addressed a circular letter to the Press, in which my name is mentioned in a rather personal and unusual manner regarding the amendment to refer back the annual report, which was moved and seconded at the recent annual meeting of the Association, I should thank you to kindly publish this letter in reply.

Mr Read makes four categorical statements which he calls "facts," as follows:—

1. That after discussion the gentleman who seconded the amendment asked Mr. Shallcross if he would withdraw the amendment, but it was pointed out that such a course was not permissible.

2. That the seconder when the amendment was put to the vote abstained from voting.

3. That Mr. Shallcross alone supported his own amendment, and

4. That when the resolution to adopt the report was put, the whole meeting except Mr. Shallcross voted for it, and adds that "the matter would be of little importance but for the danger there is that your readers may by the expressions 'lost by a majority,' 'carried by a majority,' be led to think that the Association is divided. The truth is exactly the opposite"

Mr. Read's own letter shows that the Association is "divided," and his statement that "the truth is exactly the opposite" is therefore obviously incorrect But otherwise I should have been glad to show you documents in my possession which further prove that, whatever may have occurred at the annual meeting (comprising 25 persons, of whom 13 were members of a Council of 31, the total membership of the Association being some 141), my views have received support from members of the Association, and from other persons who have not so far joined the Association, for reasons which they deem sufficient. That, notwithstanding the issue of many thousands of personal invitations as well as notices in the Press asking the public to join the Association, the membership of the Association and the attendance at the annual meeting should not have been greater may be considered instructive. But Mr. Read, whilst writing to make more complete some reports of the meeting, although these were already much fuller than others, has not apparently thought it fair to correct the report which appeared in the *Times* of the 1st inst., and other papers of about that date, and which not only stated that there was a "good attendance" (25 persons), but which would leave the impression in a reader's mind of complete unanimity having possessed the annual meeting. And if Mr. Read were so anxious for the *personnel* and numbers of the minority to be stated by the Press, why did not the, presumably, officially-approved report mention them, and why did not the annual report itself, signed by Mr. Read on behalf of the Council, mention those same particulars in regard to the minority report referred to therein? I venture to suggest that it is because the wish and effort has throughout been to create in the mind of the public an impression that an unanimity and enthusiasm existed amongst the members of the Association in favour of the views of the majority of the Council, which does not seem to be borne out by the attendance of the members, or even of the Council itself, at the annual meeting; and it was probably to similarly avoid the exact position of the Association being known to the public that the Chairman asked the reporters present not to report certain other remarks which were made at the annual meeting, and which have, so far, not been reported.

Regarding the four categorical statements, I wish to say that:—As to (1)—Mr Read's account is scarcely what occurred, which really was as follows:—After Sir Edmund Verney seconded my amendment (presumably on its merits, as I was previously unknown to him), Mr. Mark Judge asked him to withdraw his seconding, and asked the meeting to absolve Sir Edmund Verney from his act, as he (Mr. Mark Judge) thought Sir Edmund Verney was unaware, when he seconded my amendment, that I was in a minority on the Council The Chairman ruled that it would be out of order for Sir Edmund Verney to do so, and asked me whether I would withdraw the amendment so that the meeting might be unanimous; but, as the Chairman would not allow me to explain to the meeting my reasons for differing with some members of the Council, I declined to withdraw the amendment. As to (2)—Sir Edmund Verney was behind me when the voting was taken, so I did not see whether he voted or not, but I presumed, until I read Mr Read's letter, that he voted in accordance with his expressed views. As to (3) and (4)—Assuming Mr. Read's statements to be correct, I have yet to learn that it is a crime to be in a minority of one, and, if it were so, there are numbers of such criminals with whom I should think it honour to be classed. For I agree with Gerald Massie that "they are slaves who dare not be in the right with two or three," and as I, properly or improperly, feel myself to be right, I decline to stultify myself merely for the sake of being on the side of a majority.

As the Chairman would not at the meeting allow me to state the reasons why I felt I could not withdraw the amendment to the report, I would like now to state them, as follows:—

1. Because I consider building by-laws should be enunciations of sound principles of construction and sanitation instead of detailed structural methods of complying therewith, and that they should be strictly enforced in urban and rural districts alike for all kinds of buildings and upon all classes of society.

2. Because I feel that as many landlords in rural districts, within a quite recent period, when there were practically no rural building by-laws in force, did not then show avidity to build suitable and sanitary cottages, there is no reason to suppose that the abolition of certain building by-laws to-day would make such landlords any more desirous to build efficient cottages than formerly, and there appears to be no evidence to show that the proper control of building by the authorities is less desirable in rural than in urban districts, whilst the existence of such newly-formed bodies as the "Rural Sanitary and Housing Association" implies that quite the reverse state of things is the fact.

The action of the Council of the Incorporated Association of Municipal and County Engineers, in recently appointing a committee to consider necessary amendments of the model building by-laws, is evidence of their defectiveness, and the latter will only be permanently remedied by a change of principle instead of the mere variation of the resultant details.—
I am, Sir, your obedient servant,
T. MYDDELTON SHALLCROSS.

6 Dale Street, Liverpool:
March 21, 1904.

GENERAL.

Mr. D. W. Stevenson, R.S.A., the able Scottish sculptor died on Friday last in Edinburgh.

The Corporation of London are about to take immediate steps to promote a Bill in Parliament authorising them to inspect all buildings and compel owners to provide proper means of exit through the roof by fixed ladders or other adequate means of escape in case of fire. Fire alarms connected with the Watling Street fire station have been fixed at various accessible points in the City.

An Exhibition will be opened at Dresden on April 30 which is intended to exemplify the influence of a few masters in painting. England will be represented by Gainsborough; France by Meissonier and Corot; Italy by Morelli; Spain by Fortuny; Germany by Cornelius, Feuerbach, Leibl, Bödlin, Menzel and Lenbach.

The Competitors selected to take part in the final contest for the Prix de Rome in architecture are MM. Alaux, Bans, Henri Ebrard, Ernest Hébrard, Hubaine, Janin, Leprince-Ringuet, Maurice Prévot, Remaury and Tauzin

Mr. Bosanquet, the president of the Institute of Archæology, laid last week the foundation-stone of the library to be erected at Athens in memory of the late F C. Penrose, the architect and archæologist An address was delivered by Dr Dörpfeld. The British Minister and several well-known archæologists were present at the ceremony.

The Right Hon. W. J. Pirrie, head of Messrs Harland & Wolff, has intimated his intention of paying the debt of several thousands of pounds which rests on the Royal Victoria Hospital, Belfast. Mr. Pirrie has already given more than 12,000*l*. The hospital was erected from the designs of Messrs. Henman & Cooper, and was opened by the King last July.

The Government of India has announced the issue of a loan of three crores (thirty millions) of rupees for railway and irrigation works to be executed during the current year.

Rochefort must be an exception among French towns, for it is believed to be the only one without a public statue or bust of a celebrity. The peculiarity is about to be taken away, since a statue will be erected to a famous chemist born in the town.

Mr. H. J. Moule, for many years curator of Dorset County Museum, and one of the best known antiquaries in the West of England, died at Dorchester recently.

The German Emperor will place the sarcophagus of his father, now in the Mausoleum at Potsdam, in the Memorial Hall of the new cathedral in Berlin Professor Reinhold Begas has been commissioned to execute a second sarcophagus in Pentelic marble to replace the one taken from Potsdam, and to harmonise with the sarcophagus of the Empress Frederick.

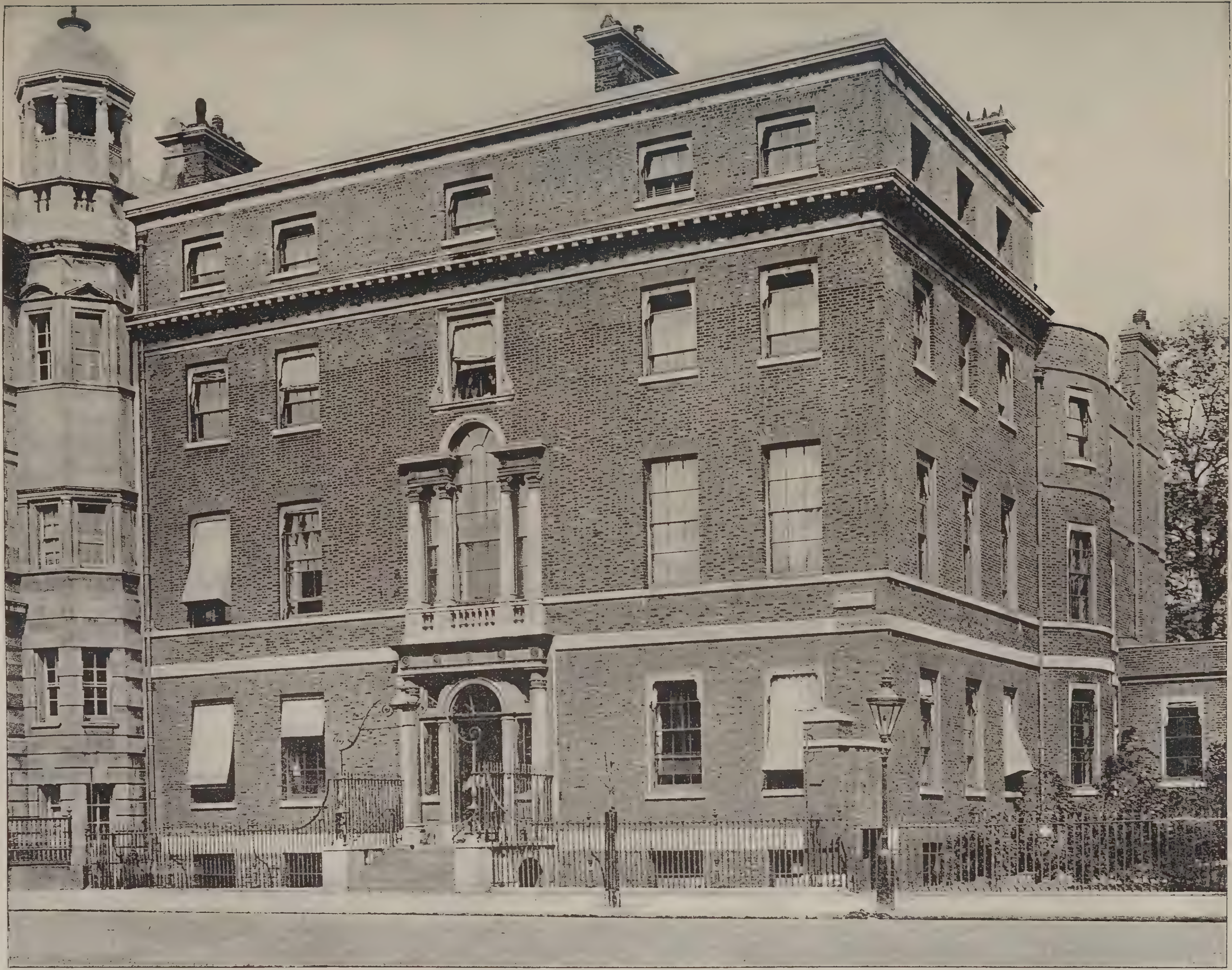
Mr. B. H. Nunn, who died on the 19th inst, commenced business at Brighton sixty years ago. He has acted as architect, engineer, surveyor or quantity surveyor for many of the principal public and private buildings in Brighton, Hove and neighbourhood.

Mr. W. F. Potter has been elected chairman of the Upper Norwood Athenæum in the place of the late Mr. Quartermain. The office of vice-chairman thus rendered vacant has been given to Mr F. E. Spiers.

An International Society of State and Municipal Building Commissioners has been organised at Washington, with the object of securing uniform building laws.

The Present Exhibition of the International Society of Sculptors, Painters and Gravers at the New Gallery will close on the 29th inst. This has been in many ways by far the most successful of all those held by the Society.

Mr. Ebenezer Howard in the course of an address on "The Garden City," delivered at the London Institution on Tuesday evening under the auspices of the Stock Exchange Art Society, referred to the evil effects of the congestion in cities and the desirability of redistributing the population. "One has only to dwell in thought for a moment on the vast number of our homeless ones, and to think of the dulness and misery of millions of human lives," said Mr Howard, "to realise that as a nation and as individuals we have not yet grasped the truth that in the long run no investments pay better than those which add to the sum of human well-being, and which supply the real needs of the people" Comfortable, healthy homes, an abundance of fresh air and water, a sufficiency of food, steady employment, wholesome recreation and enjoyment—these would be some of the advantages of the first Garden City.



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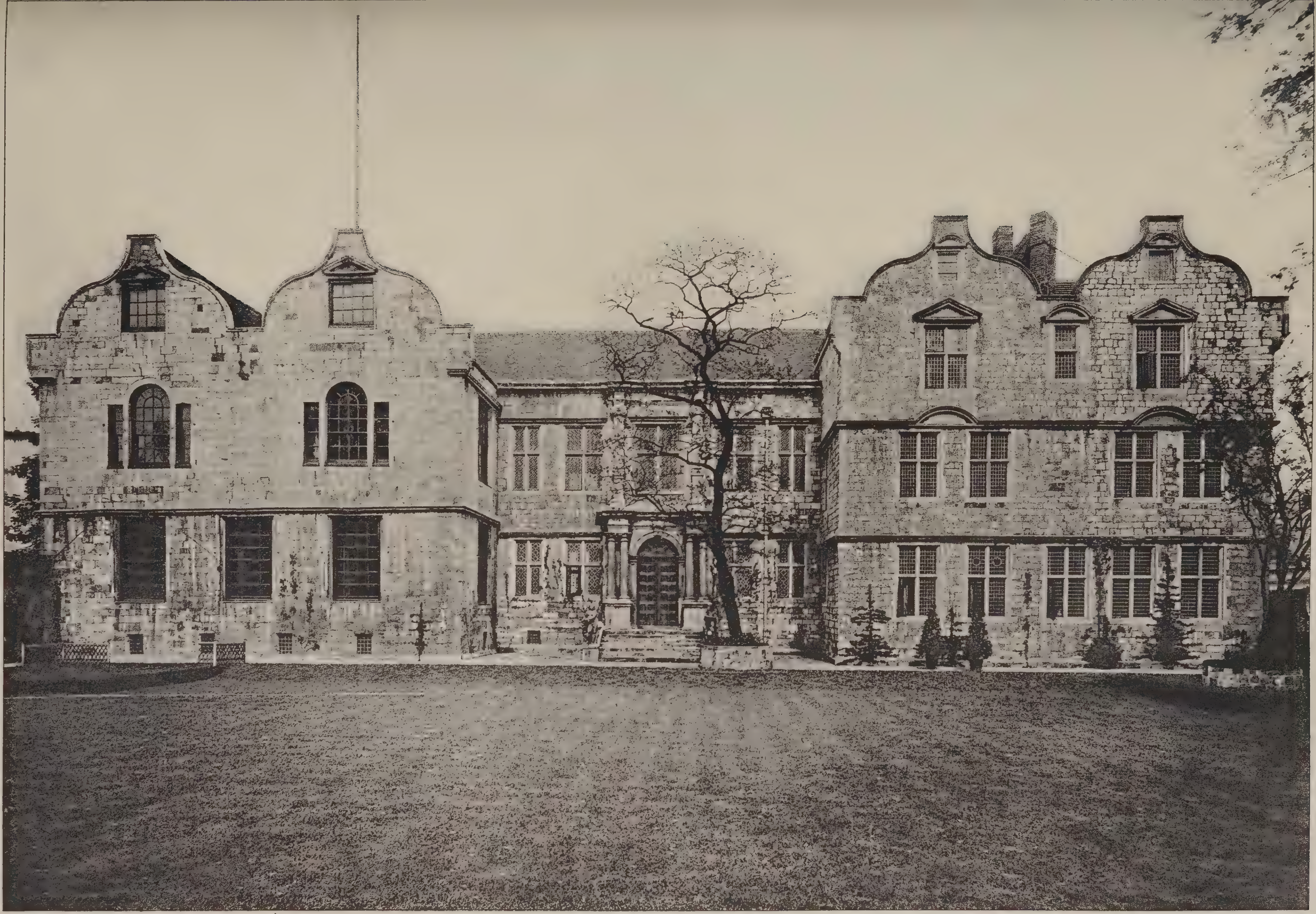

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THE "TREASURER'S HOUSE," YORK.

(The Residence of Mr. Frank Green.)

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The Architect.

THE WEEK.

Mr. Ruskin once remarked that if pictures are to be seen at all they ought to be well seen, and for that purpose there should be space about them, but there was no necessity for high walls which would lead to overcrowding. It cannot be said that in England, or even in Europe, perfection has been attained in displaying paintings in public galleries. The various efforts made in Amsterdam to show the beauties of the *Night Watch* are significant of the difficulties in lighting a gallery in order that throughout the year pictures will reveal their best qualities. The Americans, who have studied the arrangements in all European galleries, do not appear to be more successful. The architects, Mr. R. Clipston Sturgis and Mr. E. M. Wheelwright, with the director of the Boston Museum of Fine Arts, have been sent to Europe in order to devise the best means for erecting a new gallery. While they are absent experiments will be in progress in a temporary gallery erected for the purpose. We hope the commission will succeed, and that the American picture galleries will become as excellent as the public libraries are now.

Irish juries do not appreciate an architect's certificate to the extent that is usual in England. An action was tried last week in Belfast which was a curious instance of wrongheadedness. The plaintiffs, Messrs. Stewart, builders, claimed 395*l.* from Mr. M'Ervel as balance due from an account amounting to 1,527*l.* for work done and materials provided, for goods sold and delivered, and for money paid in connection with the erection of a house and other buildings. The defence was, in the first place, that the defendant did not contract, as alleged, with the plaintiffs; that no work was done and no materials provided by plaintiffs at his request; that no goods were sold or delivered, and that no money was paid by plaintiffs for defendant. Admitting for the purpose of a defence, but not further or otherwise, that they entered into the contract, the defendant further said that it was a term of the said contract that the plaintiffs should not be at liberty to demand any payments from defendant, nor should the defendant be bound to pay any sum whatever for contract or extra works without production of a certificate from the defendant's architect. It was admitted, however, that the defendant's architect issued and gave to the plaintiffs his certificate showing that a certain contract and extra works were done by the plaintiffs, and that the amount payable in respect thereof was 133*l.* 15*s.* 3*d.*, and no more, which sum defendant brought into Court and said it was sufficient to satisfy plaintiffs' claim in full. The judge put the following questions to the jury:—(1) Was the plaintiffs' tender of October 15, 1900, sent in on the basis of certain general conditions being applicable to the contract and incorporated therewith and accepted on the same basis? (2) Were the printed conditions that have been given in evidence the conditions prepared in Mr. Gilliland's (the architect's) office in anticipation of and in connection with the tender for the work? (3) Were these conditions in Mr. Gilliland's office ready to be shown to any person tendering at the time Mr. Stewart inspected the plans and documents before tendering? (4) Assuming the plaintiffs are entitled to damages in this action, what amount is due them? The jury answered the questions in the affirmative, and for number four fixed the amount at 180*l.* 7*s.* 8*d.* Counsel for defendant claimed judgment on three of the questions, which was granted, and as regards the fourth asked for a stay of execution, to which his Lordship agreed. The excess of the damages beyond the amount certified is likely to lead to further and costly litigation.

Fergusson briefly mentions the cathedral at Ribe, and says it has an apse something like that of Lund Cathedral, but of slightly more modern date, and wanting the gallery under the roof. The town or city of Ribe is small, but at one time it was of great importance in Denmark. The Danish kings used to reside there. Although little known to strangers, the cathedral is said to be extremely interesting. Some years ago its restoration was undertaken, and it is believed the outlay must have reached a million kronor, or 50,000*l.*—a large sum for a small State. It is expected the work will be completed in the course of the summer, and the occasion will be celebrated by a festival, which will be national rather than local. The building has been described officially as a mighty witness of the high culture obtained by Denmark in the past, and it is expected that representatives from all parts of the kingdom will attend. Ribe stands so near the boundary of the lost province of Schleswig, an effort will be made on the occasion to suggest that the Danish spirit remains unconquered, and thus the old cathedral will become of racial significance.

Archæologists have their favourite "finds," and accordingly much importance has been attached by Signor Boni and his friends to the terra-cotta vases lately discovered in the Roman Forum. There is something else which merits attention. The excavations were in connection with the foundation of the equestrian statue which Domitian had erected, representing himself as the conqueror of the Germans. The horse was shown as trampling on the figure of a man who was a symbol either of the northern tribes or of their great river the Rhine. The figures were about six times life-size, and the group was gilded. The five vases found in a cavity corresponded with those laid beneath all important Roman monuments. The cavity was closed with a ceremony of which our foundation-stone laying is a survival. Not only were coins placed in the vases, but when the memorials were of bronze a specimen of the metal was deposited. The discovery is therefore important for other reasons besides that of testifying to the late use of the black ware known as buchero.

Through the efforts of the Department of Agriculture and Technical Instruction Irish antiquities were to be represented in the St. Louis Exhibition. Reproductions of bronze and gold jewellery of the Celtic period have been specially prepared. There were also casts of details of architecture and of examples of sculpture, including the Monasterboice Cross. Facsimiles would suggest the skill of the Irish scribes as exemplified in illuminated manuscripts like the "Book of Kells" in Trinity College, Dublin. In a later period the Irish capital produced excellent plate, of which specimens were to be sent to St. Louis. Irish furniture was not neglected. A great many drawings and engravings were secured, comprising portraits of celebrities and views of towns and places which have gained historic interest. It is doubtful, however, whether the enormous sums exacted by the Customs authorities of the United States will not prevent the admission of the collection as a whole.

The Germans are justified in honouring the memory of Carl Schinkel, the architect, who died in 1841. He was their representative man for Classic architecture. But inspiration does not appear to have been drawn from his works by architects in any other country. He was a splendid draughtsman, a painter, and from the definiteness of his theories he might be regarded as a philosopher. But there is a coldness about his work which differentiates it both from ancient Classic, as well as the majority of modern imitations. We lately mentioned the subjects for the various prizes offered for designs in connection with the arrangements for the commemoration of Schinkel, and which are not restricted to students' works. The prizes are mainly given by the Government. Forty-seven designs were submitted for an evangelical church, and prizes have been awarded to Herr Hoffmann and Herr Emmerich. The prize for a building in connection with a sluice on the Moselle to allow of the passage of vessels was awarded to Herr Linde; there were twenty-one designs. Railway buildings seem to be unattractive, for only fourteen designs were sent in for a building which was to serve for lines at different levels. The prize was won by Herr Mentzel. The majority of the subjects are out of keeping with any of the classes of buildings designed by Schinkel, but no doubt his admirers wish to demonstrate that his style is more elastic than is usually believed.

LONDON BRIDGE.

The opening of London Bridge on Monday after the operation of widening is one of those events which must have importance for everyone who can value London not merely for its commercial but also for its historic interest. The bridge has been so identified with the city as to appear to be more than a means of communication between the northern and southern districts. During nearly seven hundred years, although London has been increasing in size, only two bridges have stood in the position. Old London Bridge was completed in 1209. Peter of Colechurch, who was an ecclesiastic, began in 1176 the bridge for which the existing structure was substituted. As has happened in the case of other important undertakings, he did not live to see the completion of his work, for he died in 1205. He was buried in the chapel, which at that period constituted a necessary part of a bridge, and in 1737 remains, assumed to be those of the founder, were discovered. The old bridge was defended by towers. In course of time a row of buildings was erected on each side, which, however well adapted for business, must have rendered ordinary traffic rather difficult, the space between them being about 20 feet.

The water was also obstructed. Originally there were twenty arches varying in size, the largest having a span of 35 feet. The small arches and the massive piers called for considerable skill from boatmen who passed under the bridge. Wren proposed that eighteen of the arches should be thrown into nine. About 1759 the large central pier, which was the chief impediment, was removed, and an arch of 70-feet span constructed. The houses on the bridge were likewise cleared away. But partial measures proved to be inadequate to cope with the growth of traffic above and below. John Telford, the engineer of the Menai Suspension Bridge, in 1801 recommended the adoption of a cast-iron arch 600-feet span, but the Parliamentary committee lacked the courage to approve of so daring a project. The rejection, however, did not overcome the necessity for improvement. A Bill was therefore passed authorising the erection of a new bridge, and John Rennie, who had gained a reputation as a bridge-builder, was appointed engineer. It was supposed that it would stand on the site of the structure raised by Peter of Colechurch, and some engineers believed that the piers would serve for the new arches.

Fish Street Hill would then become the approach on the north side, but the Corporation directed that another site should be used, 180 feet westward of the old bridge. New approaches on both sides consequently became indispensable. Their illegal action suggests the power claimed by the Corporation within the City. It was not until the new bridge was approaching completion that an Act was obtained permitting the adoption of the new site and formation of the approaches. The first pile was driven on March 15, 1824, and the first stone was laid three months afterwards. King William IV. opened the bridge on August 1, 1831. Among the spectators was the late Duke of Cambridge, who retained a vivid impression of the spectacle. The contractors were Messrs. Jolliffe & Banks. They received 425,081*l.* 9*s.* 2*d.*, but the total cost, including the approaches, amounted to 1,458,311*l.* 8*s.* 11¾*d.* John Rennie was less fortunate than Peter of Colechurch, for he did not live to see the commencement of the works, which were carried out by his son, long known as Sir John Rennie.

There could have existed at the time little expectation of any great growth of the land traffic. The width between the parapets of the new bridge was 51 feet. As the two footways were 18 feet, all that was left to accommodate every kind of wheeled conveyance was 33 feet. It was not long before the space proved to be inadequate. How to meet the difficulty was repeatedly discussed. Various solutions were offered, and among others the suggestion of overhanging footways. Fifty years ago Sir John Rennie was asked to consider and report on the subject. He opposed the proposal. He said the bridge was never calculated to have such an additional width thrown upon it; that, as after twenty-three years it had attained its final bearings, it would be injudicious to do anything that might have a tendency to disturb the masonry. Overhanging footways would also, he said, disfigure the architectural character, and unless the approaches were proportionately increased there would be no advantage in the new footways. There was space, he calculated, to accommodate four carriages abreast, and as there would be no stopping or turning, the roadway of the bridge was equal to a street accommodating six carriages. Sir John Rennie considered that if a new bridge were erected east of London Bridge it would serve the purpose of widening the latter.

In 1876 the subject came formally before the Court of Common Council. It was explained that in a later report Sir John Rennie, in connection with Mr. Page, the engineer for Westminster Bridge and Battersea Bridge, had admitted it was practical to enlarge the carriageway by making the footways to hang over each side of the bridge. The state of opinion at the time is indicated by the inability of the Chairman of the Bridge House Estates Committee to determine whether he ought to agree to the proposal or oppose it. Petitions with thousands of signatures attached had been submitted to him in favour of enlargement, but he preferred to delay a decision until he was able to judge by experience of the effect of a new bridge near the Tower. At length the pressure from the representatives of commerce became too strong to be resisted. The Bridge House Committee were compelled to seek authority for the construction of overhanging footways with metallic supports, and which it was anticipated would allow the masonry bridge to be distinguished from the additions. A great many painters publicly opposed the scheme, and although money had been expended in the preparations, it was withdrawn. Four years ago Mr. Ernest Rüntz proposed a solution of the problem by additions harmonising with Rennie's structure. The cutwaters would be utilised for abutments, and an addition would be made of 20 feet. Eventually the Corporation decided to adopt a plan prepared by their own engineer, Mr. A. Murray, in which the footways were to be carried by large corbels of granite.

The bridge during the operations was never entirely closed. Partial traffic was allowed. Temporary covered footways were constructed, and they have been so successful as to give rise to proposals for their retention. We stated some months ago, when criticising the substitution of balustrading for the solid parapet introduced by Rennie, that the bridge would be found to be too narrow for its requirements, and that view has been confirmed by later experience. The carriageway is no wider, notwithstanding the outlay. The improvement will serve pedestrians only. Nobody need be surprised if in less than a year a demand should arise that the new footways be converted into the roadway for vehicles. In that case the temporary ways would prove a convenience. It must be understood that in proportion as the trade of London increases, there arises more need for a bridge which will be adequate for additions to the traffic. It is not unreasonable to assume that the efforts now being made to obtain a more profitable position in foreign and colonial markets will have among their effects additions to the loading on London Bridge. No doubt a necessity exists for other bridges, but unless a great change takes place in the direction of the metropolitan thoroughfares London Bridge will always attract the largest proportion of traffic, and it ought to be made of a sufficient width to meet all demands. It is enough to glance at a map of London to realise the difference between London Bridge and the majority of those across the Thames. On the south the traffic from High Street, Southwark, from the London and Brighton, from the South-Eastern Railway stations and from Tooley Street at once comes upon the bridge, while King William Street on the north side, which may be regarded as an extension of the roadway, has to serve for conveyances entering it at various angles. Much can be done by the agency of police regulations, but a week or two will demonstrate that the difficulty which has existed from 1831 is not removed by the widening of the footways. Indeed, it seems as if the demand of the public to have facilities for the passing of vehicles was misinterpreted.

The manner of carrying out the widening is deserving of credit. There was practically no cessation of the traffic. Vehicles were able to pass always over at least a part of the roadway. The temporary way for the use of passengers on foot was ready as soon as the operations on the bridge commenced. The contract was carried out by Messrs. Pethick Bros., of Plymouth, and it is to be regretted that

Mr. John Pethick, who was until lately the head of the firm, should have lost his life by a carriage accident which occurred on Saturday last.

ANDREA DEL SARTO.

Although there are many relations between painting and poetry, the poets have not often taken painters as subjects. Works like Œhlenschläger's "Correggio" or Longfellow's "Michael Angelo" are not common. The sorrows of Andrea del Sarto have been recalled by Robert Browning. They have also afforded to Alfred de Musset materials for a three-act drama. Like so many of his delightful one-act and two-act pieces, it was a long time neglected by actors and managers, for although it was published in 1833 it was not represented until 1849. Nor can it be said to have held the stage. Vasari described Andrea as truly excellent in combining all the qualities required in a painter, but as a man he was timid, irresolute, and unable to do justice to all his powers. In fact, he was wanting in will-power, and men of that kind are rarely suited for the purposes of the drama. Alfred de Musset was no doubt aware of the difficulty of making such a sufferer a hero, but he was ambitious, and probably thought that if the weak Hamlet continued to be admired he might succeed in imparting enduring interest to the Florentine artist. He may also have wished to suggest that George Sand was an imitator of Lucretia del Fede in wrecking a lover's life.

The painter was, moreover, one of the Italians who was connected with France. He was induced by the magnificent offers of Francis I. to visit his Court, where he was treated like a prince. On desiring to return to Florence in order to bring his wife away, the king entrusted him with a large sum which was to be expended on paintings and statues. De Musset makes the painter soliloquise as if addressing himself:—"Heaps of gold in your hands, the most noble mission that a king ever confided to a man, a hundred *chefs-d'œuvre* to be acquired, a hundred poor artists to be enriched, the *rôle* of a good angel to be enacted, the blessings of a country to be received, and then to adorn a palace with magnificent works, and to rekindle the sacred fire of the arts in Florence. If you had faithfully carried out your mission you could kneel in thankfulness. And then it was Francis I. who trusted you, the chevalier without reproach, the honest, the generous man, the protector of the arts! You have deceived him, you have robbed him! Where is all the money gone? In jewels for your wife, fêtes, pleasures that are more saddening than ennui." The return for all his uxoriousness and the crimes which were its effects seemed so disgraceful that, according to the tradition which Alfred de Musset followed, the painter found his only refuge from remorse was in swallowing poison.

The misery of his private life has not in our time secured much sympathy for Andrea del Sarto, and has kept his works from being properly appreciated. As he was a weakling in domestic and financial affairs, it is assumed the same character is exemplified in his paintings. He was most successful in fresco. The easel pictures by him which are seen in the galleries show signs of haste, and generally they are figures of Madonnas, which are assumed to be variations of one model—his wife. Living at a time when there were giants in art, his paintings are compared with those of contemporaries, such as Raphael, who were possessed of a creative power which was not among his own endowments. It is well, however, to remember that his frescoes won for him the title of the impeccable painter ("Andrea senza errori"), and when his unhappy life is considered the marvel is that he was able to attain so high a standard. His studio must have resembled Baptista's house in Padua when Katherine the shrew was in her tantrums. Vasari, who was one of his numerous pupils, says they were all maltreated by Andrea's wife, both by words and actions, for none of them could escape her blows. But the fascination of her beauty made her husband indifferent to the conduct of the virago.

In writing about Sansovino we alluded to the uncertainty which surrounds the names of many Italian painters. It is well known that Andrea was called Del Sarto because he was a tailor's son. It was long supposed his family name was Vannucchi, but Signor Milanesi has ascertained from the baptismal register that he was called Andrea d'Agnolo di Francesco de Luca. In one of his receipts he signs himself Andrea d'Angiolo del Sarto. He was born in Florence on July 16, 1486. He was therefore about three years younger than Raphael. Like so many other painters of that period, he was apprenticed when he was seven years old to a goldsmith. A painter named Giovanni Barile was, however, able to obtain his services, and in the course of three years he was transferred to Piero di Cosimo, "the strange freakish painter" who was revived for the benefit of English readers by George Eliot in "Romola." According to Vasari's account, Andrea astonished the artists of Florence by his talents and industry. When using colours he showed grace and facility that would have done credit to a painter with fifty years' experience. Piero was old and eccentric and probably difficult to endure. Andrea left him and entered into a partnership with Franciabigio. At the time the famous cartoons of Michel Angelo and Da Vinci were to be seen in Florence, and they were studied by the two friends. One of their first commissions was for hangings or curtains with pictorial scenes, which were to be used for the protection of the paintings over the high altar of the Servite church. The confraternities of Florence were glad to employ artists who were young and likely to become renowned, especially when they were willing to work at a cheap rate. Consequently cloisters and the less important chapels were entrusted to the partners for decoration. Sometimes prices were given which bore no proportion to the excellence of the work, and the dealings with Andrea afford curious evidence of the parsimony which was combined with the love of art among the Florentines.

There is the authority of Vasari for a journey to Rome by Andrea. At that period whenever an able artist visited the capital commissions awaited him. Painters who worked for any of the monastic orders were certain to have their reputation transmitted from convent to convent, and as some of the monks became bishops and cardinals there was a possibility of important works falling to those who served an Order in any way. It is remarkable that although Andrea del Sarto had adorned several Florentine convents there exists no record of any work being offered to him in Rome. The omission is so contrary to experience, one would almost be justified, if it were not for Vasari's statement, in maintaining that Andrea never reached the capital. On the other hand, there is so much in his works that might be supposed to be derived from a study of the great wall-paintings of Raphael, it is difficult to understand how these peculiarities were obtained unless the Vatican had been visited. Browning introduces Michel Angelo as endeavouring to lower the pride of Raphael by telling him that under happier circumstances Andrea del Sarto would have surpassed him:—

> Friend, there's a certain sorry little scrub
> Goes up and down our Florence, none cares how,
> Who, were he set to plan and execute
> As you are, pricked on by your popes and kings,
> Would bring the sweat into that brow of yours.

This is a poetic version of the anecdote which is given by Bocchi, and probably is a true record of a conversation between the two great artists. Vasari, commenting on the visit of Andrea to Rome, expresses regret that he did not remain long enough, in order that his style should be elevated and more force acquired for his figures; qualities, says the biographer, which are only attainable by those who have studied carefully the marvels which are to be found in Rome. But whether the visit was brief or otherwise there is something of Raphael to be discerned in Andrea's paintings. The Florentine artist was likely to have believed that if his stay were longer his own individuality might be entirely overcome, and he would be turned into an inferior Raphael. He knew his limitations, but no one was more facile in execution. The prices he received were too low for him to spend time in preparations. Other men less entangled with the sordid anxieties of life could act otherwise, and Andrea's gentle nature respected them for their travail. Browning realised the commotion in his mind, and describes him as saying:—

I do what many dream of, all their lives,
Dream? strive to do, and agonise to do,
And fail in doing. I could count twenty such.
There burns a truer light of God in them;
In their vexed beating stuffed and stopped-up brain,
Heart, or whate'er else, than goes on to prompt
This low-pulsed forthright craftsman's hand of mine.
Their works drop groundward, but themselves, I know,
Reach many a time a heaven that's shut to me,
Enter and take their place there sure enough.

The poet's lines suggest one of the difficulties which every sincere student of Andrea del Sarto's works must have felt. It is impossible to say when he put forth all his powers. We cannot expect when we learn of his shabby treatment that he was incited thereby to render good for evil and to produce a masterpiece for an insignificant sum. On the other hand there are so many excellences in works which he painted under unfavourable conditions, we are forced to admit that he never descended below a certain average, and, it may be, could not if he desired. His *Last Supper* is not equal to Da Vinci's, but it is the only painting of the subject which can be contrasted with the noble work at S. M. delle Grazie. A copy of a portrait by Andrea was declared by Giulio Romano to be the original which was painted by Raphael. His *St. Agnes* was also accepted by Mengs as one of the best works of Raphael. Some of his angels surpass those of Correggio. The numerous works he was compelled to execute in monochrome were enough to affect his sense of colour. Yet Burckhardt does not hesitate to describe him as the greatest colourist produced by the country south of the Apennines in the sixteenth century; as the first of all the Florentines who attained a harmonious scale, a deep, often luminous, transparency of colours, and as the first who allowed colour to have a codetermining influence in the composition of a picture. As the friend of Sansovino it was to be expected that architecture would be an element in his pictures, as in those of Raphael, and that the buildings introduced would have the right characteristics, but in his composition we find often a recognition of the principle of the architecturesque which would do credit to any Academician.

Among the paintings which are most creditable to the Andrea are the series illustrating the life of St. John Baptist—in grey and white, having partly the effect of a relief; also, for the same building (the court of the Scalzo, Florence), the figures of *Justice* and *Charity*. It has been alleged that some of the figures were derived from Dürer's engravings, but the practice of imitation of that kind was not considered as unworthy, for the originals were enhanced in value by the adaptation. His *Last Supper* is in the refectory of the Convent of St. Salvi, near Florence. As in Da Vinci's work, the majority of the figures are placed at one side of the table, and eight of the thirteen are seen in profile. Evidently Andrea felt no desire to compete with the greater artist, and was satisfied with an interpretation which, if not dignified, was pleasing. The *Madonna del Sacco* has been made popular by engravings, and it is not unworthy to be placed near one of Raphael's works of the same class. In the frescoes depicting events in the life of St. Filippo Benizzi, one of his early commissions, there are incidents which recall Ghirlandajo, as they appear to have been derived from ordinary life. The figures of saints in the cathedral of Pisa are also excellent.

Andrea del Sarto should be considered under two aspects, viz. as a wall-painter and an easel-painter. At the time the former class of works were the chief resource of an artist, but it was necessary to diplomatise or to have friends in order to gain a commission. As already stated, the accounts of the haggling with Andrea in order to obtain a large quantity of work below its market price form one of the painful chapters in the history of art. Even in Vasari's time people who owned Andrea's pictures were able to obtain three times the sums paid for them. He was timid by disposition, and was one of the few painters who undervalued their ability. His prices were therefore very low. The shrewd middlemen of the time made a victim of him. The masters in woodwork, says Vasari, who usually superintended the dwellings of the citizens, would never oblige their friends by giving Andrea any work unless when he was in great need and would accept the meanest price. From this it would appear that his condition made people implore the syndics to give him employment, and that not even under those circumstances was any pity shown to him. His oil-paintings which were intended to be sold in France and other countries outside Italy were ordered by merchants, and they were not likely to be more liberal than the Florentine guilds. Vasari says the price received in some cases was four times that paid to the artist. Andrea lived in a precarious state, and it was not until he entered the service of the French king that he could have known what was comfort. Unaccustomed to money—for his earnings were hardly sufficient to support himself and his dependents, for his own and his wife's family looked to him for provision—he was not fitted to become the agent of the French king. When the money was squandered he hoped to obtain forgiveness, but as he was no diplomatist he was ignorant about the means to be adopted, and he never had his case brought before Francis I. Evidently Vasari looked on him as a victim of a destiny with which no ordinary man could cope. On hearing that the superintendents of works turned out of the church the simple tablet which Domenico Costi had erected as a memorial of Andrea, Vasari said, "The influences of the Fates are powerful not only over our lives, but over our memories."

THE LATE DR. A. S. MURRAY.

A GENERAL meeting of the Fellows of the British Academy was held on the 23rd ult. Lord Reay, the president, said that since the last meeting the Academy had to deplore the loss of another of its Fellows, Dr. A. S. Murray, late Keeper of Greek and Roman Antiquities in the British Museum. In moving a vote of condolence, the President made the following reference:—"Amid our deep regret the Academy has at least the feeling of satisfaction that we numbered him among those who were added to our body at the earliest opportunity after the charter of incorporation had been granted us. We have reason to know that, modest and retiring as he was, he yet highly appreciated this recognition duly accorded to his eminent scholarship, which had already received more than one tribute from academies and institutes abroad. As for his public services to learning in his official capacity, those who are best able to judge extol them with no measured praise. The Director of the British Museum, who has by his own personal qualities so intimately linked the British Academy and the British Museum—a link which we all hope will never be broken—will, I feel sure, supplement my few words, expressive of our sense of loss. The Greek and Roman galleries, the arrangement of which constitutes a record of the modern science of archæology, will for long years to come be associated with Dr Murray's name; it might well be said that his work there is his best memorial—*si monumentum requiris, circumspice*."

Sir E. Maunde Thompson, in supporting the vote of condolence, feelingly testified to the eminent services rendered by Dr. Murray, to the sterling worth of his character, his devotion to his colleagues and his whole-hearted love for his work. During all the long years of their association there had never been the least possible difference between them. The loss was keenly felt by himself and his fellow-workers.

SUSSEX ARCHÆOLOGICAL SOCIETY.

THE annual meeting of the Sussex Society was held on the 23rd inst. in Lewes, the Rev. Canon Cooper presiding. He referred to the necessity of erecting new premises.

Mr. Renshaw, K.C., moved that the Council be authorised to acquire a site for a museum, library, offices and caretaker's house, to erect such buildings on the site acquired, to furnish and equip the buildings when erected, and to secure a convenient approach to the castle, and to raise money for these purposes by subscriptions, by sale of the Society's Consols, by the issue of debentures, by mortgage of the site and buildings, or by such other means as the Council shall consider desirable. The site they had selected was within the purlieu of Lewes Castle. It was no good fettering and narrowing the powers of the Council. He also pointed out, says the *Sussex Daily News*, that it would be necessary to make a new approach to the castle in consequence of what had taken place.

Mr P. M. Johnston explained the plans. The resolution was then put and carried.

Mr Stenning explained the objects of the proposed photographic survey in the county. Articles of interest to archæologists were continually being destroyed and no record of what had existed was kept. By taking photographs they could retain pictures for themselves.

Mr. Boysen read a paper on a Papal bull found in Sussex.

Several had been found in the county during recent years in a remarkably fine state of preservation. The earliest example in the British Museum was one of John V. (685-86), and from that time till 1878 such a seal had been continuously used for all Papal documents. In that year, however, Leo XIII. ordained that the leaden seal should only be employed in the case of documents of a very important and solemn nature.

Mr. P. M. Johnston read a paper on "Eastergate Church and its Old Glass." Eastergate Church, dedicated to St. George, was, he said, a small building, consisting only of nave and chancel, a few miles eastward of Chichester. The chancel preserved in its south wall some herring-bone work in Roman bricks; and in its north wall was a small window of pre-Conquest date, and on and around this was a painting of very ancient date—possibly coeval—which appeared to exhibit figures of martyrs in flames, within a sort of rude arcading, above which was a border of a "key" or "Greek net" pattern. The east window was of Perpendicular date, and there were two thirteenth-century lancets in the south wall. The nave had been greatly modernised in a restoration some years ago, but it retained some early sixteenth-century work in its west wall—a door and window. There are traces of a thirteenth-century west door. The nave roof was a fine piece of plain, solid carpentry, probably of thirteenth or fourteenth-century date. In the south wall of the nave was a two-light window of the period of transition between Decorated and Perpendicular (copied in the new windows of the nave), dating from about 1350. It contained the beautiful contemporary glass, of which he exhibited tracings. It and the window in which it was placed had been carefully repaired under his superintendence, His Grace the Duke of Norfolk kindly contributing to the cost of the work. The glass included a shield bearing the arms of De Warrenne, quartered with those of the Earls of Arundel.

Mr. Johnston also read another interesting paper on "A pre-Conquest Coffin-Slab from Arundel Castle." A country builder's yard often proved a happy hunting-ground for the antiquary, he said He was one day exploring the back premises of Messrs. A. & E Brooker, at Walberton, near Arundel, when he observed a quantity of ancient stones built into one of the modern walls. Among them his eye was at once arrested by a remarkable slab—it was a rude gravestone or coffin-slab, worked in the peculiar fresh-water limestone. The slab bore in very low relief a cross which suggested Byzantine or Eastern influence, and attached to its top member was a sort of triangular loop such as would be used in hanging a metal cross on the breast. The slab came into possession of the late Mr. Brooker as "old material" when he was called in to effect some repairs to a wall in Arundel Castle, and it might be that it originally covered the remains of a Saxon priest who acted as chaplain.

Mr. Crake's paper was on "The Past and Present of the Grey Friars, Chichester." Having mentioned on several occasions the deplorable condition of the beautiful Early English chapel of the Grey Friars priory at Chichester to the Council of the Society, he was persuaded by Mr. Whitley to read a paper and try to arouse an interest in a building which was unhappily scarcely known outside Chichester, where, he regretted to say, its refined beauty had not called forth the love and respect it deserved nor the admiration which was its due. Mr. Crake gave a most interesting description of the architectural features of the building. Speaking of windows, Mr. Crake said that most of them had been reduced to grid-irons by tennis-balls, some of which actually fell in the church while he was sketching. The children seemed to take a pleasure in breaking the windows; all five north windows were open to the sky. For some years it had ceased to be treated as a building to be respected for its associations, and had been taken over by a recreation and garden committee. A store-house was put to the praiseworthy purpose of armoury of the local Volunteer force, who used the church for a drill-hall.

Mr. Dawson next read a paper on "The Glass Industry in Sussex," a report of which appears elsewhere.

Mr. Hudson mentioned that the Rev. W. F. Dalton had handed him a silver penny dated 1461 which had been dug up out of the Vicarage grounds.

A very hearty vote of thanks was accorded the readers of the papers and the Chairman, after which the company adjourned to the White Hart hotel, where luncheon was partaken of.

The Ruskin Exhibition in Manchester will include a course of lectures at the town hall. The first lecture, by Mr. J. E. Phythian, is entitled, "All true art is praise;" on April 13 Mr. J. L. Paton will speak on "Ruskin and the Schools;" on April 19 Mr. J. W Graham on "Ruskin's reconstruction of Society;" on April 26 the Dean of Durham on "The economic grounds of Ruskin's teaching;" on May 3 Professor Capper on "Ruskin and Architecture;" and on May 10 Mr. M H. Spielmann on "Ruskin as Artist."

ENGLISH DOMESTIC AND MILITARY ARCHITECTURE.

The last of the series of lectures on "English Domestic and Military Architecture" was given at Salisbury, when Mr. W. H. St. John Hope dealt with buildings of the early part of the sixteenth century.

The domestic buildings of Henry VIII.'s reign were said to differ very little from those of the fifteenth century. Ightham House, in Kent, is a good small example of this period. It has a gatehouse not projecting but flush with the other buildings, and on the outside of the gateway may be traced a chase for the drawbridge. The hall is of the fourteenth century with windows of a later date, and in the chapel are a screen, pulpit, roof and stall-work of the time of Henry VIII. Another example is at East Barsham, Norfolk, in which we see the fire-place put at the daïs end of the hall, showing that the original use of the hall was no longer thought of. Compton Winyates is a perfect example of a courtyard type of house built about 1520, the hall having rooms adjoining it. In these buildings it is to be noticed that there is no regularity of plan, which undoubtedly adds to the picturesque appearance of the structures. An example of an early sixteenth-century house is one near Midhurst, in Sussex, built by the Earl of Southampton in 1530; it was unfortunately nearly all destroyed by fire some time ago. The chief feature of this period is the decline of Gothic and the introduction of Renaissance work. The Renaissance style first sprang up in Italy early in the fifteenth century and reached its prime in that country before it was introduced into England. Layer Marney, in Essex, showed this new style on a large scale, and Sutton Place, near Guildford, shows the Italian influence in its plan, which is regular, as well as the architecture. The use of brick was general, and among the buildings of the time in that material are Cardinal Wolsey's palace at Hampton Court and Henry VII.'s house at Richmond. Timber construction also survived, especially in counties where stone was not abundant, and there are many examples of such houses built in the reigns of Henry VIII. and Elizabeth. Many specimens of half stone and half wood dwellings are to be found in the counties of Kent, Surrey and Sussex. At Walton, in Essex, is a house, early sixteenth century, with the upper storey supported on columns, and the shop being underneath people could do their business in the dry. The more important houses continued to be approached by gatehouses built in semi-military fashion. A beautiful gateway, rich with heraldic designs, is that at St. John's College, Cambridge, founded by Margaret Beaufort, the mother of Henry VII., while another displaying heraldry is to be seen at Peterborough. A college means really a community of persons living together and has nothing to do with the place in which it lives, though buildings now are generally called by the name. At Cobham is what used to be a College of Priests, and consists of a common hall, warden's chamber and kitchen, with a number of little two-storeyed houses built round a quadrangle in which each member of the college lived. The building is now used as an almshouse and is well preserved. The University buildings of Oxford and Cambridge are built round a quadrangle, and usually had a chapel and library, though as in the case of Peterhouse and Corpus Christi Colleges, where there is no chapel, they are served by the parish church. A courtyard type of fifteenth-century college is the well known Hospital of St. Cross, Winchester, which was really founded in the twelfth century by Henry de Blois, a bishop of that see. The older type of hospital is based on the common life of the great hall, in which the centre was used for meals and the aisles for beds. This same plan was adhered to in the early infirmaries, of which St. Mary's Hospital, Chichester, is a good example. It was founded in 1229, but the existing hall dates from 1290. St. Nicholas Hospital, in Salisbury, is similar, but has been much altered, and there is another smaller hospital at St. John's, Glastonbury. Plenty of Mediæval schools are preserved; those of Winchester and Eton, the latter planned and founded by Henry VI., are examples. As to the architecture of the cottages and villages, some examples of the sixteenth century are to be seen and there is a very picturesque one at Bignor in Sussex, most of them having overhanging storeys. Not only did our ancestors make their houses beautiful but they took great pains over the building of barns, such as the barn at Raunds, Northamptonshire, and the Abbot's barn at Glastonbury which shows ornamentation. Pigeon houses were an adjunct to every manor house, and were either round ones built of stone or square ones of wood Water mills belonged to the lords of the manor, and in a survey 6,000 are mentioned. There is one at Fountains Abbey dated 1145. Ancient windmills were introduced in the twelfth century, and of Mediæval lighthouses one is to be seen at Flamborough Head. Bridges were built over rivers and chapels on or near them, such as the one at Wakefield built in the reign of Edward III., and Rotherham, while the chapel on Bradford-on-Avon bridge is much smaller The lecturer concluded with some suggestions to those of his audience who intended to go on studying architecture, urging photographers and artists to take notice and get pictures of old doorways, windows and arches instead of wishing to have the whole building; a volume of such pictures, said Mr. Hope, being of greater interest than a book of postcards or stamps.

The Rev. Precentor Carpenter said they had had the advantage of seeing a large number of very beautiful and interesting examples of architecture carefully selected by one who had a wide knowledge of his subject. One impression was that the people who lived five or six hundred years ago were not so very far behind those of the twentieth century. He thought it was the Bishop of Worcester who pointed out that the names of hardly any of the architects who designed the cathedrals, abbeys and castles which were being built at the end of the thirteenth century had come down to us. He supposed that in those days it was thought quite natural that they should build in a beautiful way.

A vote of thanks to the lecturer was adopted.

The reports are derived from the *Wiltshire Mirror.*

ARCHITECTURE AT THE ROYAL SCOTTISH ACADEMY.

THE exhibition is the smallest of recent years, according to the *Glasgow Herald.* Only five members of the Academy exhibit, and four Glasgow architects. No very important project is submitted. The majority of the works are already executed, and so full advantage has been taken of the permission to show photographs. Of course projected work must be represented by drawings, and these should be encouraged as, besides being necessary, having artistic qualities, apart altogether from the merits of the subject delineated.

Perhaps the most important work in the collection is the N. B. and Mercantile Insurance Company's Offices, by Messrs. Peddie & Washington Browne, now erecting in Princes Street. The façade is a fine study in dignified Classic; its centre-piece has a large Corinthian order, but the decoration of the fenestration suffices for the wings. The detail that will probably most provoke criticism is the band of attached balusters that runs right across the building, a usual enough treatment immediately under windows, but infrequently met with between them, as in this case. A contrast in every respect is another Academician's treatment of the same type of building, the Glasgow Sun Fire Office, by Mr. Leiper, shown by a photograph, a much livelier affair, almost overladen with variety of features that even excellence of detail hardly justifies—the chief example of this architect's commercial work with a happy choice of French Renaissance in a city where the Italian manner has commanded a preference. Mr. Blanc has a frame of three small churches shown in slight pen sketches, no plans, and all over phases of Perpendicular Gothic; that of Markinch U.F. has the peculiarly English feature of a wood porch, for, strangely enough, that never appears to have found favour north of the Tweed. Only in one of the three—Stevenston U.F.—is there an approach to a steeple in a graceful little octagon corner tower. A chancel screen in Christ Church, Morningside, by the same, is of wood, and in quite correct French Gothic if not very interesting, shown in a thin pen drawing. Mr. Lorimer has a frame of photographs of interior of Mr. Burrell's Glasgow house, full of rich work in quaint old Scottish style An oak cradle has wealth of fancy of this archæological sort; of swing-box form, it might be from a museum of fourteenth-century furniture. The oak has apparently a fictitious age given it by some means; very properly the names of carver and joiner are appended. A third frame, Carmyle, Aberdeenshire, the house of Mr. R. P. Robertson, of Glasgow, has all the agressive kailyard Scotticisms this architect affects. The New Buildings, Marischal College, by Mr. Mackenzie, shows in a good pen drawing a long two-storey range, where effect is chiefly had in a sky-line of slender crocketed pinnacles and embattled parapet, all in the Perpendicular style of the great tower, here shown as part of the group, and of an extreme tenuity that granite makes reasonable; the gateway tower is not so good. Another large frame of photos contains views and plans of two sumptuously-designed stables at Albyre for Sir Wm. Gordon-Cumming, and at Ratho for R. Muntz Stevenson, by Mr. Kinross They are similar in disposition, each forming a quadrangle entered through a deep archway, and are in the Scottish baronial style, where rough-cast walls in conjunction with carving and a considerable amount of architectural decoration of a robust kind suits the purpose of the building admirably

Ecclesiastical works comprise new parish church, Milngavie, Messrs. Leadbetter & Fairley; plan shows narrow aisles for passage only and wide transepts of two bays, the style and perpendicular treated in the distinctively modern fashion. There is a well-designed tower, illustrated by an excellent wash drawing. Proposed Established Church, Murrayfield, Mr. A. H. Crawford, a treatment of Decorated Gothic, no plan, a very good water-colour; a church at Bathgate by Mr. J. Graham Fairley, no plan, Gothic, and also shown by water-colour, not so good; U.F. church at M'Donald Road, Edinburgh, Messrs. J. N. Scott & A. Lorne Campbell, a simple and unpretentious if fairly large building, illustrated by pen and ink. All these are in the Gothic manner, apparently for the present an approved fashionable style. An exception is Mr. Macpherson's stalls in a convent chapel that conform to their surroundings, and are of Italian Renaissance design, very elaborately carved and moulded, of well-approved orthodox design, and so quite sure to give pleasure even if the architect has foregone personal credit.

The cathedral of St. Anne, Belfast, by Sir Thomas Drew, is a print from a wash drawing—a cruciform church of fairly large scale in French Romanesque style, with grand western portals. The centre tower, with its square finish and corner turrets is not so happy, but the whole work is a fine one. There are three competitive designs for Motherwell Carnegie Library. That selected, by Messrs. Greig, Fairbairn & Macniven, is a fresh treatment of English Renaissance. But no plan is given—a wash drawing. A first premiated design by Mr. T. T. Paterson is in the same style, with same absence of plan and in same manner of illustration. A third premium has gone to Messrs. Scott & Campbell that has a plan—a pen drawing, and in style rather suggestive of an academy. The new Technical Schools, Kirkcaldy, Mr. W. Williamson, quite express their purpose. It was perhaps unavoidable that they could not assimilate with the older Classic block. The second premiated design for Hamilton Municipal Buildings, Messrs. M'Arthur & Watson, is shown in a beautiful wash drawing, and the style treated is English Renaissance, which has quite a vogue just now for civic buildings The Usher Institute of Public Health, Messrs. Leadbetter & Fairley, is in that style. Good value is found in plain wall space; there is a low-browed entrance, and a rather good use is made of the order in a couple of widely separated pilasters; throughout there is an old-world touch that gives distinction and interest. Besides a fine photograph of the River Front of the Exhibition, Mr. Miller shows a large hotel at Turnberry of a quiet domestic type, a long level frontage broken by a couple of timber gables, walls rough-cast, apparently with some lead panelling in flat oriels; a pen drawing. The House at Helensburgh, by Mr. A. N. Paterson, is so fully illustrated by the nine photographs that a plan is unnecessary; has perhaps rather too much variety, for there are conical roofs and ogeed gables with corbie steps and with curved skews and dormers besides. Within the notable effect is the absence of plaster cornices, replaced by large plain coves, with here and there modelled ornament. Braidwood House, Edinburgh, by Mr. James Jerdan, picturesquely designed and helped by its surroundings of formal garden walks and parapet walling; a pen drawing. A house at Swindon, Wilts, by Mr. L. J. Wood, quiet and good in outline, the pen-and-ink accessory foliage passable, but the house itself ill-drawn. Messrs. Hamilton, Paterson & Rhind's The Hollies, Barnton, is rather aggressively picturesque; it is partly of half-timber. Kilmeny, Helensburgh, by Mr. R. Wemyss, is shown by a photo, no plan; not a large house, but treated with a good deal of distinction, in part timber, the tall, narrow stone gable is well set off by contrast. House at Loch Ard, by Messrs. Leadbetter & Fairley, in revived Scottish manner; skews to the gables are preferred before corbie steps, and this is well. Savoy Croft, Ayr, Mr. Jas. A. Morris, three photograph interiors of the artist's own house. Hintow House, Northampton, by the same, and also shown by photo views, is a characteristic English country house, both externally and within satisfactory. Stained glass is represented by sketches that at best can but feebly represent the finished result. The Decorations of St. Michael's Church, Dumfries, Mr. J. M. Glover, is not very conspicuous, perhaps a merit where the architecture is so uninspiring.

BRITISH SCHOOL AT ATHENS.

ON Wednesday, March 16, the ceremony took place at Athens, when the first sod was turned by Lady Evans of the new library which is to be added to the Students' Hostel of the British School at Athens, as a memorial to the late Mr. F. C. Penrose, the first director of the school. Besides Lady Evans, Mr. Elliot, the new British Minister, Mr. R C Bosanquet, the present director of the British School, and Dr. Dörpfeld, the first secretary of the German Institute, spoke on the occasion, and Mr. D. Bikelas also said a few words in the name of the Archæological Society of Athens, which has offered to place in the new library a marble bust of Mr. Penrose, in recognition of his great services to Athenian archæology. It is estimated that the proposed Penrose Library, which is to serve also as a hall for open meetings of the school, will cost, with its fittings, from 1,000*l.* to 1,200*l.* A special fund is being raised, towards which not quite 600*l.* has been promised or subscribed. On the strength of this support the work is already being put in hand, as stated, but it is very desirable that the balance of the sum required shall be forthcoming before long from subscribers to this fund, as the school is unfortunately not in a position to contribute much from its comparatively limited resources, already taxed to the utmost by its ordinary needs and operations. Subscriptions will be gratefully received and acknowledged by the hon. treasurer of the fund, Mr. George Macmillan, St. Martin's Street, London, W.C., or may be paid direct to the account of the "Penrose Memorial Fund," at the London and County Banking Company, Ltd., Henrietta Street, Covent Garden, W.C. In connection with the munificent gift just made by the Goldsmiths' Company to the University of London, it is interesting to note that the same company some weeks ago made a grant of 50*l.* each to the British Schools of Archæology in Athens and Rome.

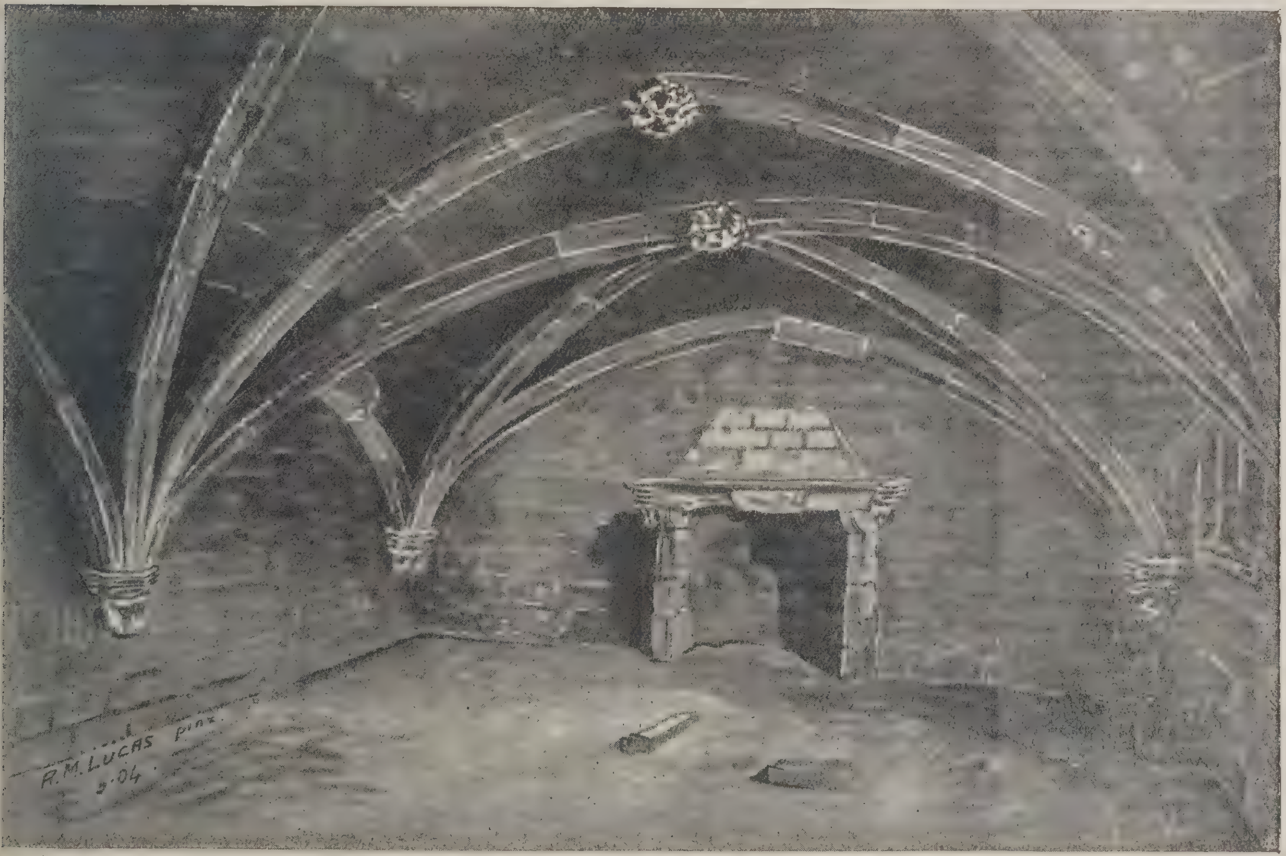
NEWMAN MEMORIAL CHURCH.

THE foundation-stone of the memorial church at Birmingham to the late Cardinal Newman was laid on the 25th ult. on the site of the present Oratory, which was founded by His Eminence in 1849 upon the authority of a Papal brief. The original building, which is of an unprepossessing character, was intended only as a temporary structure, and the Roman Catholic community are carrying out the Cardinal's wishes in erecting an edifice of artistic beauty at an estimated cost of 25,000*l.* The plan and main features of the new building are based on those of the church of San Martino in Rome, chosen because the Cardinal had always intended that such a church should be erected at Edgbaston. For this purpose he caused an exact ground plan and elevation of San Martino to be made for him in 1850. He had hoped, moreover, to have begun the building of the church at once, and Viollet-le-Duc executed plans for it which are still in the possesion of the Fathers. The foundations were, in fact, laid; but, as a consequence of the generosity of the public in defraying the expenses of the Achilli trial, funds to carry on the work were not asked for, and so what was then a temporary church has had, with additions and alterations, to do duty for the last fifty years. In selecting, therefore, San Martino as their model for the memorial church, the Fathers are carrying out the Cardinal's intentions, though the design has of necessity been modified to suit modern requirements. Hence, in the new plans there are transepts and a spacious sanctuary, while a barrel roof and dome have been substituted for the flat roof of San Martino. The nave will consist of seven bays, with side aisles and apsidal side chapels opening from the aisles. The interior walls of the church will be left for the present for future decoration, and the side aisles will be vaulted in stone. The width of the nave will be 33 feet, and the barrel roof will be made of chestnut wood. The columns supporting the tablature will be of Brescia marble, each column measuring 18 feet in height and 2 feet 1½ inches in diameter. The floor will also be of marble. The internal stonework will be of Guiting stone, and the external walls of Stancliffe stone. The building will be an entirely new structure, which will be erected outside and over the present edifice, a task attended obviously by additional difficulty and expense. For a time the extensions proposed on the chancel side of the church will be deferred. The architect is Mr. Doran Webb.

EDINBURGH ARCHITECTURAL ASSOCIATION.

THE Edinburgh Architectural Association held their first visit for the session on the 26th ult., when a large party of members visited the Gothic Ironworks at Camelon, by kind permission of the proprietors, Messrs. R. & A. Main. The Messrs. Main had arranged to keep all the works in full operation during the afternoon, in order that the party might see the various processes. The members were divided into sections, and under the leadership of Messrs. Main and Miller were shown over the works, and inspected all the various departments, from the blast furnace and casting shop to the finishing shop and show-rooms. The visit was instructive and enjoyable from first to last, and additional interest was lent to it from the fact that the works are built on the site of two Roman camps, a short description of which was given by Mr Thomas Ross. In the absence of Mr. Hunter Crawford, president, Mr. Thomas Ross proposed votes of thanks to the Messrs. Main for their kindness in allowing the members to visit the place, and especially for having the works kept in operation during the afternoon.

SOUTHAMPTON UNDERCROFT.



THE above view shows the Undercroft in Simnel Street, Southampton, which was described in *The Architect* ast week. The plan was also given, which was prepared by Mr. R. M. LUCAS, architect, and by the adoption of which the vault will be preserved.

NOTES AND COMMENTS.

The streets committee of the City Corporation have recognised the inconvenience caused by the demolition of buildings in the crowded streets of London. Negotiations took place with the Royal Institute of British Architects, the Surveyors' Institution and the Institute of Builders on the subject. In August last a series of by-laws were prepared and submitted for official sanction. The Local Government Board have revised them, and they are now in operation. Henceforth no person will be allowed to pull down any building unless all windows in the external walls from which sashes and glass have been removed are boarded up, unless a gantry is constructed the upper portion of which is boarded in to the full height of the building to be demolished. As far as practicable, the internal partitions of such building are to be taken down storey by storey before beginning to take down any of the external walls of the respective storeys, while canvas, boarded or other suitable screens or mats are to be placed wherever necessary to prevent nuisances arising from dust. The constant sprinkling of materials with water is to be enforced. No ceiling is to be broken down or mortar shot or allowed to fall into any basement between the hours of 10 A.M. and 6 P.M. on any day except Saturday, nor between 10 and 2 o'clock on Saturday. That rule will not apply in the case of any building or part of a building which is not within 20 feet of a public way. Provisions are also made for the abatement of nuisances arising from the carting of materials away from buildings in the course of demolition, unless special arrangements are made for the protection of the public. Penalties are to be imposed for any breach of the by-laws.

If land has peculiar natural advantages for a particular purpose, and is on that account compulsorily acquired for that purpose, such peculiar natural advantages must be taken account of by the arbitrator in determining the amount of the compensation payable. This was decided by the Court of Appeal (affirming Wright, J.) in the matter of an arbitration between Gough and The Aspatria, Silloth and District Joint Water Board. The Water Board took Mrs. Gough's land for a reservoir because it was peculiarly adapted by nature to such a purpose. It was argued that, because there was no market for reservoirs, peculiar adaptability for the construction of a reservoir was not an element to be taken into account in determining the value. The Court decided against this contention on the authority of certain unreported cases to be found in Browne & Allan's "Law of Compensation" (second edition) at pages 678 and 718. Peculiar natural advantages must always be recognised by an arbitrator whether or no there is a present available market It does not follow that if the peculiar advantages were not natural, but were caused only by an Act of Parliament or by some particular project to use them in a certain way, such artificially-created advantages would be an element in determining the compensation payable.

We have received the first number of the "Journal of the Institute of Architects of New South Wales." Australia has hitherto given inadequate support to periodicals in which local architecture is discussed. It is therefore doubtful whether any ordinary publisher's speculation will succeed. In both Sydney and Melbourne there is an endeavour to issue journals which will have an official character. In Europe and America similar attempts have not been advantageous, for the writers are rarely able to exercise independence, and there is no compensatory advantage. It is announced that the primary aim of the new journal is to conserve the interests of the Institute. The first article is on "The City Beautiful," recommending the adoption of an Art Commission on broader lines than that of New York, to exercise a controlling power in connection with a new Building Act. The Central Railway station is described from a document supplied by the Department of Public Works. There is an article by Mr. Souter on "Architectural Sydney from a non-Architectural Point of View." A history of "Christian Church Architecture" is commenced. Some of the designs prepared in the competition for the Australian Provident Society's offices are criticised, one by Messrs. Sulman & Power being assigned first place. A "Plea for National Character in Architectural Decoration," by Mr. G. Taylor, maintains that "Nature in Australia is replete with new and suggestive detail." The remainder is miscellaneous. We hope the future numbers will come nearer to the ideal set forth in the preface, for the first cannot be considered as likely to become "attractive to many by whom most papers of this class are looked upon as being devoted entirely to technical subjects with which they have no concern, and which they are therefore unlikely to appreciate."

The building trade of Edinburgh should be able to profit by the works which will be required in the creation of the naval base at Rosyth. The official buildings will comprise barracks, hospitals, workshops and dockyard premises. Some idea of the extent of the new town can be gained from the inquiries into the water supply. Portsmouth requires about 900,000 gallons a day for its naval establishments, Devonport 700,000 gallons. At Rosyth provision is to be made for a daily supply of 500,000 gallons. About 12,000 men are employed in the Portsmouth dockyard, and it may be assumed that at least 6,000 will be needed at Rosyth. It is calculated that a population of more than 30,000 will be collected about North Queensferry. The Admiralty engineer said men would be at work as soon as the plans and drawings were approved. It will be necessary to take the future population into account. The Dunfermline district committee, therefore, propose to utilise an area of about 1,377 acres at Glenquey, which is calculated to yield a sufficient supply. The reservoir which is to be constructed will contain 205,000,000 gallons. The cost of the waterworks is estimated at 104,000*l*.

ILLUSTRATIONS.

COLCHESTER TOWN HALL.—INTERIOR OF GREAT HALL, LOOKING TOWARDS ORGAN.

GWYDYR HOUSE, WHITEHALL.

THE TREASURER'S HOUSE, YORK.

CATHEDRAL SERIES.—CHESTER DETAIL OF CHOIR STALLS.

The illustration we published last week shows the general effect of the choir, which is the part of the building that receives most admiration from visitors. The screen is modern, for it was designed by the late Sir Gilbert Scott, but it seems to be a necessary supplement to the beautiful stalls which line both sides of the choir. In the latter new and old work had to be mixed, but the restorations can be recognised with but little difficulty. Some of the new stalls were gifts from individuals, but others were subscribed for by parishes, societies or groups of friends. One, for instance, originated with the Cambrian Archæological Association, another with the Historic Society of Lancashire and Cheshire, a third with certain clergymen, a fourth with a Bible class, and so on. The old misereres are interesting. Several are inspired by knightly themes, others are taken from animal life, but there are fewer of a sarcastic kind than might be expected.

A ROUMANIAN GIRL.

Visitors to Brussels, although they may not care about visiting picture galleries, are compelled to become acquainted with one of the works of the late Jean François Portaels, because it fills the pediment of the church of St Jacques in the Place Royale, and is therefore opposite the Montagne de la Cour, which is the principal street of the city. Portaels was a native of Vilvorde, and studied in Brussels as well as with Paul Delaroche. He was a great traveller, and no Belgian artist of his time exercised so much influence on students. He was appointed director of the Academy at Ghent, and for nearly twenty years directed the Brussels Academy. He painted Scripture incidents, Eastern scenes, as well as many subjects derived from ordinary life. When he painted *The Roumanian Girl* there was some novelty about the subject, for travellers from the West of Europe were afraid to venture into a region where such women were to be found. It was a type of Eastern gipsydom he wished to produce, one that would not be entirely free from a suspicion of cruelty and dishonesty.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of British Architects was held on Monday evening last, Mr. Aston Webb, R A, president, in the chair.

Mr. C. STANLEY PEACH read a paper illustrated by lantern views and numerous drawings of American and Continental examples on—

The Design and Construction of Buildings Connected with the Generation and Supply of Electricity known as Central Stations.

He emphasised the need for an architect to study the buildings required for modern scientific industries if he is to maintain the traditions of the past and take a prominent part in the progress of the day. The buildings connected with the generation and supply of electricity—commonly known as central stations—are a conspicuous example of such structures. In less than twenty years they have developed from small commonplace sheds to complex structures frequently of great size, occupying prominent sites and supplying power for innumerable purposes. Upwards of 750 of these buildings have in about fifteen years been erected in the United Kingdom alone, and a much greater number abroad. The advantages of electricity were appreciated sooner abroad than in Great Britain—here also it was hampered for a time by unfortunate legislation—and the industry had made considerable progress in foreign countries before a start was made here. Hence it is useful to study foreign practice, for that which obtains abroad to-day is more or less that which will be put into practice in England to-morrow. The various systems of supply have been in a continuous state of evolution, and requirements have constantly changed. The buildings first erected have been quickly superseded, and information obtained from existing buildings is not so generally useful as it is in cases where slower progress on more settled lines has taken place. Now, however, matters are assuming more or less definite shape, and the time is opportune to consider buildings recently erected and those likely to be required in the immediate future.

Primarily central stations may be divided into three classes, viz :—

1. The Power Station—the class now coming into vogue and the real central station—at which power is generated for the district allotted to it, whence it is supplied to sub-stations for distribution. Larger and more powerful machines are usually installed in power stations.

2. The Sub-Station, which receives the power from the central source, and retails or distributes it to consumers in its immediate vicinity. There are two principal subdivisions—(*a*) sub-stations housing machinery and batteries or accumulators for storing electricity ; (*b*) sub-stations without storage and accommodating machinery only.

3. Direct Supply Stations (subdivided into simple and composite), where the power is both generated and distributed. The simple direct supply station comprises the machinery departments only. The composite direct supply station is rather an electricity works, and contains, in addition to the rooms for machinery, accommodation for meters, mains and roadwork, tramways and administration departments, sometimes also destructor, &c, but the accommodation varies considerably in every case.

The initial source of power, *i.e.* wind, water or steam, exercises the greatest influence on design and construction. The more directly the natural elements are employed the fewer processes are involved and the more simple the building required.

The author treated at considerable length the building requirements, equipment and arrangements of the various classes of power stations, describing more or less fully the principal stations in the United Kingdom, on the Continent and in America. Working drawings and views of the buildings were shown by lantern-slides, and a large number were displayed on the walls of the meeting-room.

The simplest kind of station is that in which air or wind is he source of power. The only station of this kind, that at Askov, consists of a single room containing dynamos and accessory machinery. It has been running satisfactorily since its erection in 1902. The windmills are above the building nd connected to a counter shaft, whence the dynamos are driven by belts.

A great number of water-power stations have been erected broad, but there are none of first-class importance in Great Britain It is usually a one-storey building above the ground ne, having one and occasionally two or more principal rooms. The flumes, aqueducts, weirs and sluices required for diverting nd controlling the water and directing it to the turbines, and for leading it back to its natural channels, the foundation of these uildings, honeycombed with chambers and tunnels, are the most interesting parts of the works. Their construction requires considerable technical skill, as almost every kind of vault, dome and curved structure, meeting and intersecting at every kind of angle, is to be found in these buildings.

At Niagara, probably the best known water-power station, the volume of water is estimated to represent 7,000,000 horse-power, the greater part of which can, and eventually will, be made available. Thus a force equivalent to the consumption of over 200,000 tons of coal per day (practically the daily output of the world's coal-mines) will be penned in and controlled in the buildings. The machines dealing with this power must all be fixed rigidly in one place, and will be concentrated in a comparatively small area. This concentration and fixing of machinery of enormous power within a building is a new feature. The structure must be calculated with an ample margin of safety, and to allow considerable strength above what would be considered sufficient in ordinary practice.

Some of the European water-power stations are interesting examples of well-studied architectural treatment. Full advantage has been taken of the shape of the building required for the arrangement of plant. The most important members of the construction have been accentuated in the elevations, and the buildings have been carefully grouped to accord with the locality in which it has been necessary to erect them. A picturesque example is the power-station at Tivoli, on the Tiber, where the energy for the city of Rome is generated.

The steam-power station, a comparatively recent introduction, is a more complicated building than the water-power station. Owing to the larger size of the rooms, the greater number of departments, and the more complicated construction required, these buildings present even greater opportunities to the architect. The author predicted a great demand for these in the future, for they are the direct outcome of the system of generation and supply which now seems in a fair way to receive general acceptance. Steam-stations generally consist of engine-house, storage for electricity, boiler-house, pump-room, chimney-shafts, coal store and water department. The station of the London Electric Supply Corporation at Deptford was perhaps the first of this kind, designed by Mr. Ferranti in 1888. Stations erected ten years later in America have followed very closely Mr. Ferranti's design. The special construction problem presented is the manner in which the heavy loads requiring to be accommodated in these buildings have to be disposed on the site. The Americans have displayed great ingenuity in installing very powerful plant on sites of small superficial area ; stations with plant on more than one floor are more common there than elsewhere. A remarkable instance is the Edison station at Philadelphia, where the plant is installed in an eleven-storey building, each department being placed on a different floor, one above the other. It is not, however, an arrangement which would be adopted in ordinary practice.

The Manhattan station, New York, is typical of central stations generally in one respect. It is built on a bad foundation, the gneiss bed rock bottom being deeply eroded by streams which formerly traversed it. It was, therefore, of unequal supporting power, which accounts for the apparently unequal strength and thickness of foundations. Large quantities of water are used in connection with the work carried on in central stations, therefore they are frequently erected on the banks of rivers and canals, where the subsoil is hardly suitable for such buildings and careful adjustment of the weight is necessary. Sometimes the subsoil is hard in places and yielding in others. In such cases foundations like those of Manhattan have been found suitable, but in very soft soils much waterlogged it is as a rule better to support the load on concrete floats proportionate to the weight, allowing somewhat more than half the load which would be taken for an ordinary building. A thick float of concrete all over the site is a common method of meeting the difficulty, both in English and German practice. It is a good plan on clay, but should be keyed on the under side on looser soils.

Referring to the architectural treatment of some of the Continental stations, the author said that the buildings are faced externally with fine hard bricks, bright buff, laid in the German fashion—all headers The gable ends are well treated with very large windows and strongly-marked divisions in the lights. The general wall-faces are plain, but the header bond gives an excellent scale to the buildings, and the ornament is concentrated in a few well-designed and well-placed features by which the full value of the expenditure on embellishment is obtained. It is often said of buildings treated like Geneva, Munich and the Berlin stations that they are expensive. They are generally less costly than many buildings which look plain and are so described The difference is that in the one case full value is obtained from the embellishments by good design, in the other case the same or greater expense is incurred for material not essential to construction frittered over the surface, and therefore ineffective. Other notable buildings are the power station at Munich, with its interesting and original shaft, the whole forming a most picturesque group with the baths which adjoin it ; the station at Turin, with elegant gable treatment and a circular brick shaft, well treated with pilasters and cornice at the top and plain brickwork below, partly water-power and partly steam, is an interesting example of Italian practice; at Vicenza, where a most ingenious arrangement of double arches and open tilework is adopted for the windows.

Almost every combination and kind of plant and design of central station is to be found in Great Britain. One of the largest power houses in London will eventually be that of the Central Electric Supply Company at Grove Road, St. John's Wood, which will supply power for general purposes for the west-end districts of London served by the Westminster Electric Supply Corporation and St. James's and Pall Mall Electric Lighting Company. It is situated on the banks of the Regent's Canal, the site being 7½ acres in extent, all of which will eventually be covered with the buildings. Upwards of 150,000 horse-power can be placed on the site if the plant is arranged on the one-floor system. The one-half of the first section has recently been completed, and provides accommodation for 14,800 horse-power.

The author gave details also of the power stations at Edinburgh, Glasgow, Manchester, Sunderland, Brighton, Eastbourne, Liverpool, Dublin, Chiswick, the City of London power station near Blackfriars Bridge, and others.

The simple direct supply station consists of the machinery departments somewhat on the same lines as the power station. It was almost the earliest form of station, and originated simultaneously with the composite form of direct supply station. It was required in those districts which were too large to be served by one central station, before the days of the power station. It is not probable that many more of these stations will be required. Some of the existing simple direct supply stations are already being converted into sub-stations, and in time, no doubt, the steam plant will be taken out of many and be replaced with electrical machinery only.

Of the composite type of direct supply stations, though in small towns in the country remote from other towns or from centres where power can be generated under exceptionally favourable conditions, and in agricultural districts, this type will be erected for some years to come, sooner or later combination between towns and districts will take place, and co-operative power stations will replace this class also, and those then existing will become, at any rate, partly sub-stations also. It will be a great advantage to this country in the keen war of trade competition which is before it, and will reduce the appalling extravagance and waste of the mineral wealth of this country which is now going on from the unnecessary consumption, carriage and handling of coal, and all the attendant waste of land, labour and time, and congestion of traffic produced and fostered by present methods.

Sub-stations to accommodate static transformers were formerly small, unimportant structures, frequently vaults under the pavement or roadways, or in basements of houses. It is now, however, a building requiring careful design and of daily increasing importance. The function of the plant installed in it is either to alter the character or to reduce the tension of energy derived from the power stations, and to distribute either the same energy at another potentiality or to generate and distribute new energy at low tension by means of dynamos directly coupled and driven by motors. Every precaution should be taken to prevent transmission of mechanical vibration or escape of sound beyond the building. The buildings must be dry, well ventilated and well-lighted in every part.

The author gave some interesting illustrations of the chimney-shafts of central power stations. These shafts are not ordinary factory chimneys. Their importance to the undertaking, and consequently to the community, their great size, and the fact that they may be erected in groups of from two up to six or more, require that they should be of better construction and appearance than is often deemed sufficient. Cast-iron caps are frequently objected to as being heavy; properly designed, they are lighter than a corresponding height of brickwork. Within reasonable limits a fairly heavy cap is an advantage and not a disadvantage.

The author concluded a summary of matters which experience has shown are of importance in designing central stations with the following remarks:—From the very commencement of electric supply engineers have been ceaselessly engaged in inventing, working out and perfecting the innumerable electrical and mechanical devices and systems connected with this highly scientific subject. It has been, and it is, impossible for them to burden their minds or give up time to the consideration of the buildings. From the moment that the plant arrangement which the engineer requires has been given to the architect, the former never expects nor wishes to have anything more to do with the buildings until the architect is in a position to hand them over ready for the engineer's work to commence and plant to be erected By this it is not to be understood that during this time the architect can work without reference to the engineer; quite the contrary. They must be in touch at every point from commencement to completion The architect must be prepared to deal with the legal points affecting the buildings, their cost, and every part of the construction. He must appreciate what the industry is, what its developments are likely to be, and have the same intelligent general knowledge about machinery and things electrical that he would be expected to have of the fittings, appointments and work of any other class of buildings more commonly met with in general practice.

Professor KENNEDY said he was extremely glad to see such a crowded meeting, for it showed that architects as a profession were seriously interested in the subject dealt with in the paper Generating stations would have to be built in the future, and if architects did not attend to the requirements of such work it would be so much the worse for the architects and for the stations. The one fault he found with the paper was that the author had been too modest in the introduction of his own designs. The relations between architects and engineers had been given to them in a satisfactory manner, but there were some matters in which engineers looked to architects for help. It had not to do with the external appearance of such, because in that particular the architect was wholly concerned; it had to do with the construction. The question of vibration was a serious one for buildings erected in crowded centres. In the construction of the foundations this might be minimised, and the solution of the problem was one of the most important features the architect had to consider. He had not a free hand, however, because the shape of the foundations would be suggested by the engineer. Another matter of importance was that the buildings must have no combustible materials about them, for the engineer looked to the architect to provide for him a building that would not burn.

Colonel E. BALFOUR, in referring to water-power for generating stations, said he had gone into the question some years ago with Lord Kelvin as to the possibility of finding any means for using the water-power in Scotch sea lochs, and Lord Kelvin had stated that from the calculations he had made it would be impossible. It might therefore be laid down that only great rivers running permanently and streams originating from snow mountains could be utilised for water-power as an energy. In the designing of power stations the architect had many difficulties to deal with. The chimney was a problem in itself, but he believed that it was possible to design chimneys which would in themselves be beautiful, and he congratulated Mr. Peach in having been the first to deal with the problem successfully. The relations between the architect and the engineer became more and more complicated day by day. They began in the days of railways, when the engineers believed they could design beautiful buildings and failed; then they tried to combine with the architect. Engineers and architects ought to work harmoniously together, so that the one should supply the engineering side, and the other the artistic finish to the work undertaken.

Mr. JOHN SLATER proposed a vote of thanks to the author of the paper. Colonel Balfour seconded the motion, which was supported by Messrs. S. Z. de Ferranti, Watson, Wright and A. Gay.

OLD SUSSEX GLASS.*

THE writer, in pursuing his researches into the ancient industries of Sussex, and wishing to supplement his papers which have already appeared in the Collections of the Sussex Archæological Society (Vol 46, p 1), desires to call the attention of other archæologists by the following notice to the Sussex industry of glass-making, in the hope that he may thus obtain further information on the subject.

The glass-making industry in Sussex dates at least from early Mediæval days, and thenceforward up to the end of the sixteenth century the county was undoubtedly the chief centre of the industry in England. All hope of tracing its origin is apparently lost. It may, indeed, date far back into prehistoric times From the earliest age when man commenced to use fire the phenomenon of the melting of silica in contact with alkali derived from wood-ash must have presented itself. We know that the Romans and the Anglo-Saxons used both cast and blown glass in Britain, and Sussex is rich in local specimens obtained from the graves of Anglo-Saxons at High Down, Worthing, and elsewhere; but positive evidence stops short of the discovery of traces of any local manufacture in England. Pliny mentions that glass was imported into the interior of Britain in the form of "massae," namely, rough lumps of glass, to be subsequently melted, tinted and worked up by the local artificers

In 1848 Dr. Guest drew attention to a considerable quantity of coloured glass which was to be found upon the beach between Brighton and Rottingdean, worn into the form of pebbles by the action of the tide This glass, he suggested, was derived from the remains of a Roman glass factory situate somewhere upon the cliffs bordering the seashore. The action of the eastward drift, whereby large masses of beach are transported from west to east along our southern coast, renders it doubtful how far these glass pebbles may be considered to be local, and evidence of their Roman origin has not been clearly made out. The Anglo-Saxon blown glass vessels from the Sussex graves show an advanced state of manufacture, but, from their forms, foreign importation is suspected Glass-making in its rudest and simplest form as cast glass does not seem to have been practised in Britain in the year 675, when Bede relates how he sent to Gaul for artisans to glaze his church and monastery at Wearmouth. Formerly the windows of the churches in England were closed with wooden shutters or lattices made of wicker, and when glass was used at Worcester, about the year 744, and the moon and stars were seen through a medium which would allow light to pass, while excluding the effects of weather, supernatural agency was suspected.

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* A paper read by Mr. Charles Dawson, F.S.A., at the last meeting of the Sussex Archæological Society, and published in the *Sussex Daily News.*

In tracing the history of glass in this country a distinction must be drawn between window-glass and glass vessels. Many examples of the former still remain, whereas Mediæval glass vessels are exceedingly rare, and no examples of glass drinking-cups are to be traced between Saxon times and the end of the sixteenth century, having, it is feared, succumbed during the lapse of time. Window-glass existed in two forms—the cast and the blown. Among the remains of old Roman villas there may still be traced portions of old translucent window-glass made by casting molten glass upon the smooth surface of stone, producing a pane smooth on one side and rough on the other. We have seen that this art was in Britain lost in the days of Bede, and it probably never really flourished until the country began to settle down after the Norman invasion, and our splendid examples of early Pointed architecture commenced to rise.

It is apparent that at the end of the twelfth century the art of window-glass making existed in great perfection. The earliest and finest examples are to be found in the cathedral of Canterbury: for other specimens we may look at the rose window in the northern transept at Lincoln; the remains of a "Jesse" window on the north side of the nave clerestory at York; and the pattern-windows in Salisbury Cathedral. These belong to the first half of the thirteenth century.

Old royal accounts at the Record Office show how the English monarchs from time to time drew upon the resources of the Sussex glass manufacturers. Edward III., when rebuild-ng St. Stephen's Chapel at Westminster between the years 349 and 1351 issued several writs to his sheriffs in various counties, including Sussex and Surrey, to procure glass (probably cast) for the chapel windows Let us glance by the ight of these accounts at the artificers at work upon this Wealden glass. We find that—

Master John of Chester and his five assistants, master glaziers, drew the images for the glass windows on white ables, each receiving one shilling a day. Eleven painters at sevenpence a day laid the glass on the tables and painted it, and fifteen others cut, broke and joined it together at the wages of 6*d.* a day, with assistants who were paid at the rate of fourpence halfpenny or fourpence. John Geddying washed the ables with servicia and whitening from time to time as fresh urfaces were required for the drawings; and Thomas Dadynton and Robert Yerdesle ground the colours at the wages of fourpence halfpenny a day.

Blown window glass was made by the "verriers" of Colchester at the end of the thirteenth and the early part of the ourteenth century.

Every sort of blown glass contains two ingredients, namely, ilica and alkali, the former being the acid and the latter the base or solvent. The varieties in the nature of glass depend upon the alkali used, and upon the other constituents, such as ime, oxide of iron or manganese, lead, alumina, &c., which may be added. The quality of the glass depends upon the purity of the alkali, and so long as this was derived, as in the Sussex works, from ashes of wood, bracken or "fern," bean-ods and sea-weed, the quality constantly varied and was often nferior. The ancients never attained the long sought perfecion in clear "crystalline" glass, owing to the limited size of heir furnaces and melting-pots, the production of pure "crystalne" necessitating long-continued fusion in large pots. The Anglo-Saxon glass never approached the cleanness of the Roman "crystallinum," a colourless glass, very light in weight, nd held in great esteem, though much inferior to our modern int glass. The Roman was, however, superior to the old ussex or Wealden glass, which was of a coarse green variety, wing to oxide of iron impurities. The earliest Mediæval rinking-vessels in England which remain to us were brought rom the East, some being Saracenic, others Italian, such s Venetian and Muranian. Some of these have descended o us in the form of heirlooms attached to certain houses and states under the name of "Lucks," such as the Luck of Tuncaster, and that of Edenhall, the breaking of which was upposed to terminate the luck of the family or estate. The essential quality of "Lucks" was that they were bound to be made of fragile material. But no doubt coarse vessels of blown glass were produced by the Wealden glass-makers from the earliest times Among these may be reckoned the green bulbous flasks with long necks, two of which, from Fletching and Beckley (Sussex), are in the Sussex Archæological Society's Museum.

The antiquity of glass-making at Chiddingfold in the Weald has been proved by the Rev. T. S. Cooper, F.S A., of Eastbourne, from documents. Laurence, the glass-maker (vitrearius) had a grant of 20 acres of land in Chiddingfold about the year 1230. In a deed of 1301 a certain rent in the parish was released to William, son of William, the "verir" of that place. During the fourteenth century four generations of the local family of Schutere followed the occupation of "glassieres" in Chiddingfold and Kirdford. The first instance recorded of glass-vessel making in the Weald is that by John Glasewryth, of Staffordshire, who had a grant of land in Sheurwode, Kirdford, where he made "brodeglas" and "vessel." But vessels of wood, treen, horn and leather were far more generally used than glass. The use of the large leathern blackjacks at Court gave rise to the "traveller's tale," long believed in France, that Englishmen drank out of their boots.

The glass-makers in Sussex are seldom referred to. One of the earliest references is by Thomas Charnock in his "Breviary of Philosophy" (1557), and judging from the following quotation this "gentleman glass-maker" (as glass-makers of the period loved to be called) was an independent and perhaps irascible person :—

> As for glassemakers, they be scant in the land ;
> Yet one there is, I doe understand :
> And in Sussex is now his habitacion,
> At Chiddingsfold he works his ocupacion ;
> To go to him is necessary and meete,
> Or send a servant who is discrete ;
> And desire him, in most humble wise,
> To blow thee a glasse after thy devise.

It seems almost disrespectful when Mr. Hartshorne says "this Chiddingfold man can only have produced, as his predecessors did, the commonest green glass made from coarse local sand (Hastings sand) and impure alkali obtained from wood ashes."

Glass-houses have been traced by documentary evidence to Fernfold Wood, Kirdford; Wisborough Green, Ewhurst, and Alfold in the Western Weald; and to Beckley, Northiam, near Rye, and Hastings in the Eastern Weald. "Glassye Borough" occurs in Beckley and Peasemarsh as Mediæval place-names. Camden says in his "Britannia," speaking of Sussex, "Neither want here glasse-houses, but the glasse there made by reason of the manner of making, I wot not whether, is likewise nothing so pure and cleare, and therefore used of the common sort only." And another writer says, "Neither can we match the purity of the Venice glasses, and yet many green ones are blown in Sussex profitable to the makers and convenient to the users thereof."

By an Act of 39 Elizabeth, cap. 4, glass-men who carried glass on their backs in a pack were allowed to rove the country so long as they were of good behaviour, and not as pedlars and chapmen, who were deemed rogues and vagabonds; they, however, soon earned for themselves a similar reputation. A country amusement was to get one of these glass-men to thrash his glass, breaking it to pieces with a stick, which he was willing to do for a consideration from the yokel jeunesse dorée of the period

Speed, in his Atlas (1610), sounded an oft-repeated warning when he mentioned the production of "iron and glasse" in Sussex, namely, "as they bring great gain to their possessors, so do they impoverish the country of woods, whose want will be found in ages to come, if not at this present in some sort felt." Another complaint alleged that "the glass-houses remove and follow the woods with small charge, which the ironworks cannot easily do." Notice of this evil was first taken towards the end of the sixteenth century, when the foreigners began to take up glass-vessel making in England seriously. The first foreigners were induced to come by Edward VI., but they were hastily recalled by their own countrymen, who were jealous that their secrets should be disclosed

In 1567 Jean Carre, from the Low Countries, petitioned for a license to make glass, the fuel to be obtained from Arundel, and certain Frenchmen applied for a monopoly of window-glass manufacture. Thereupon a communication was sent to the Chiddingfold glassmaker, who declared that he "neither had nor could make window glass." He said that he only produced "small things, such as mortars, bottles and orinaux." The latter were water globes used to place in front of rush-lights to increase their power. No doubt a distinction was drawn between "glass-quarries" (small lozenge-shaped panes) and larger window glass. Mr. Cooper discovered pieces of green glass on the site of an old glass-house at Chiddingfold.

In 1567 Carre wrote that he had erected a glass-house at Fernefold Wood, in Loxwood (Sussex). He was sending to Spain for soda as his alkaline flux, presumably to get it purer or to save the timber. In conjunction with another of his countrymen, Becker, he engaged to exercise and practise "the art and feat or mysterie of making glass for glasinge such as is made in ffraunce, Lorrayne and Burgundy," and to teach English apprentices. The most important introduction of foreigners in the glass-making industry of Sussex took place when the French Huguenots came over in 1567, and the industry received a great stimulus. Mr. R. Garraway-Rice, F.S.A., states that the parish registers of Wisborough Green give the names between 1581 and 1600 of Tyzack, Henzy, Tyttery, Bongar, De Caquery. At Alford was buried John Carry (Carré), "Mr. of the G Glashouse," May 23, 1573. The names of Brasso, Perres, Pereor, Bossom and Parnys also occur in connection with glass-houses in Sussex.

In 1579, at Beckley, near Rye, a Venetian, Sebastian Orlanden, and certain Frenchmen from Lorraine, made bugles, "amells" and glass in colours. Evelyn, the diarist, tells us that his father brought over glass-workers after the massacres in France, and settled them on his estate in Sussex, where they remained for many generations. In 1581 complaints were made by the Mayor and Jurats of Rye of the wasting of the woods near Rye, Winchelsea and Hastings by the iron and glass houses.

As usual, the influx of foreign workmen and the destruction of the woods gave rise to local dissatisfaction, and in 1574 the Bishop of Chichester informed Lord Burghley of a plot of "certain vicious persons" about Petworth to rob and murder the French glass-makers and burn their houses. These troubles led to neglect of the trade, and in 1584-85 an Act was passed against glass-making by "strangers and outlandish men" within the realm, for the preservation of the woods. Timber cutting was limited to certain areas. No foreigners were allowed to make glass unless instructed by Englishmen, and then only in the proportion of one foreigner to two Englishmen

Aubrey states that eleven glass-houses at Chiddingfold were suppressed during Elizabeth's reign, and another was petitioned against at Hindhead, on account of the waste of timber trees. The men at Fernfold migrated to a vast beech-wood called Buckholt Wood, in Hampshire.

The time had fully come when pit and sea-coal should be brought into use. At first this was thought impossible. The old way of making glass with sand, often containing iron impurities, had been superseded by the use of flint, the larger proportion of silica producing a finer and clearer glass. The fumes of pit-coal were found to affect injuriously flint-glass when mixed with litharge in the open pots used with timber-fuel. As soon as it was discovered that closing the pot remedied this defect the long-sought legislation came, and with it the extinction of the Sussex industry The "Proclamation touching glasses" of May 23, 1615, prohibited the use of wood in glass-making furnaces, and only allowed sea or pit-coal or other fuel not being wood, declaring that "it were the lesse evil to reduce the times into the ancient manner of drinking in stone and of lattice-windows than to suffer the loss of such a treasure" as timber, so necessary for the navy. At the same time the importation of foreign glass was interdicted.

It is curious to observe that in 1614 the monopoly of the glass industry fell into the hands of a Vice-Admiral of the Fleet. Admiral Mansel, a comrade of Effingham and Essex, was a "master gentleman glass-maker" as early as 1606. The patent which Mansel secured in 1614-15, in the word of the modern vernacular of finance, "cornered" the glass industry in England for nearly forty years. The glass-making has never returned to Sussex, and it was left to the iron foundries to complete the destruction of the ancient forests of the Weald.

THE RUSKIN EXHIBITION.

THE Lord Mayor of Manchester opened the Ruskin Exhibition in the Corporation Art Gallery on Wednesday in last week.

The Town Clerk read a statement as to the nature and objects of the exhibition The art gallery committee believed that this exhibition would be interesting to all lovers of art, and also that it was exceptionally valuable to those who were receiving an art training. They hoped, therefore, that the students of the Municipal School of Art and of other art schools in Manchester and the neighbourhood would take full advantage of it. It was appropriate to call to mind some of the associations of Mr. Ruskin with Manchester. It was in connection with the Art Treasures Exhibition of 1857—a red-letter event in Manchester history—that he delivered the two lectures on "The Political Economy of Art," and on the same occasion he gave to the boys of the Grammar School an address, which had recently been discovered in an old newspaper, and was to be republished in the Grammar School magazine. On February 22, 1859, at the annual meeting of the Manchester School of Art, he delivered in the Art Gallery the lecture entitled "The Unity of Art." It was pleasant to recollect that two of his most delightful lectures, "Kings' Treasures" and "Queens' Gardens," published as "Sesame and Lilies," were delivered in the Rusholme Public Hall in 1864. Speaking at the opening ceremony of the Rusholme branch library in 1892, the Venerable Archdeacon Anson, referring to these lectures, said that when requested by him to deliver them, Mr. Ruskin asked what he was to lecture upon, and in reply to the suggestion that he should deal with "his own subject" he said, "No, he wanted to talk about books and the value of libraries." On being invited to give a title for his lecture, Mr. Ruskin said, "No, you must select the title yourself." Archdeacon Anson suggested "What and How to Read," or something equally prosaic, and Ruskin said that would do, but he afterwards sent his own title, "Kings' Treasures" and "Queens' Gardens." It was in Manchester that the first Ruskin Society was established in 1879, and a letter from Mr. Ruskin to the secretary of the Society, in which he suggested that its aim should be to promote such English learning and life as could abide where the wild rose grew, was included in the exhibition. At a later date Mr. Ruskin showed his interest in the Ancoats Art Museum by giving to it several of his own drawings and by writing notes on some copies of drawings by Turner.

The Lord Mayor said the occasion was one of special interest to all who believed in the spread of a knowledge of true art and a love of honest work. It was a matter for congratulation that they had there in the City Art Gallery been enabled to gather together so many beautiful examples of Ruskin's long and laborious life. He thought that Manchester, which had always been the friend of art, in doing honour to Ruskin was conferring true honour upon itself. The Lord Mayor then declared the exhibition open.

The Vice-Chancellor of the Manchester University thought it peculiarly fitting that Manchester should take an active part in a demonstration in honour of the memory of one of the greatest teachers England had produced, for it was in Manchester that some of the most characteristic teachings of Ruskin were first heard. In many of Ruskin's writings and spoken words there were a few home truths told in regard to Manchester to which we did well to give heed. Ruskin taught us to have a high ideal, and that the right to rule was determined by the willingness and the capacity to serve. Ruskin was sometimes called unpractical but on examination he believed it would be found that his views were the really practical ones, the ones that would be really fruitful for good if they were only more generally accepted. When asked to take part in the opening of the exhibition he readily assented, because it seemed appropriate that the representative of our University should do what was possible to give expression to the sympathy which those who took part in higher education must feel for such an effort as this exhibition to make better known to our citizens and to excite more interest in the work of a great teacher, and partly because from the time when he had the privilege of hearing Ruskin's famous lectures on art at Oxford he had felt, and still felt with undiminished intensity, the immense value of the influence of Ruskin's work. Others might speak with fuller knowledge of his influence on art, of the light which Ruskin shed on architecture, on painting, on the beauty in nature and in the best work of man, which we had learned to see more clearly under his guidance. He wished particularly to say something distinctly and definitely about the enormous debt the country owed to Ruskin for his political, social and moral teaching, which had become a growing influence in our national life. Of the power and essential rightness of that teaching he had had reason to become more and more convinced, and he believed it to be an abiding influence, the results of which were spreading still. He did not refer to points of detail; many of Ruskin's statements might be open to unanswerable criticism but it was the attitude of mind with which such questions were regarded, the point of view which was all important. Ruskin was sometimes called unpractical, but on examination it would be found that his views were really the practical ones and those that would be really fruitful for good if they were only more generally adopted. It was the same teaching which they had from the great political writer Burke and in the poems of Wordsworth In comparison with Carlyle's teaching Ruskin's was of a permanently practical character. It had been said that his teaching would not be received by the masses of our democracy. He denied that absolutely and entirely, and believed that his teaching was sinking more and more deeply into the hearts and minds of the working classes, who believed that in the application of the principles which underlay that teaching was hope for them and their country in the future. That teaching, that attitude of mind, and the underlying principles of it were the things to which they ought to look in guiding their political attitude. They should endeavour to approach the subject by placing before themselves some distinct ideal of what they wished their country to be and to do. They must make their ideal high enough, and he believed that Mr. Ruskin's teaching at Oxford was marked by what he might call a distinct enunciation of a right and sound Imperial principle It was an imperialism which should know and distinctly recognise the power for good which it could exercise throughout all quarters of the world, and that those who were proving themselves a race really capable of ruling should recognise their power and feel bound by their duty to do what they could for the good of mankind in general. To sum up Ruskin's teaching was that the right to rule was determined by the willingness and the capacity to serve. He was opposed to the early teaching of economists that we should simply look to the production of wealth in the sense of that which could be bought and sold instead of that which made for the general welfare of the community as a whole. Their duty then was to follow Ruskin's teaching, first by forming an ideal to dispel privilege, and let their ideal be a high one and a fixed and unselfish one

Mrs Severn said :—I have been asked to say a few words, but it would take many to express the pleasure and pride I feel in being here to-day. One has often heard that when Manchester does a thing it does it well, but it has surely surpassed itself in the wonderful way this exhibition has been made of work not only by my distinguished kinsman but of other artists bearing upon it, whose work he loved and was interested in. The Corporation and the Art Gallery committee may well be congratulated on having got such indefatigable helpers as Mr. Phythian and Mr. Collingwood. It has a special interest for me being here to-day, because when I first made the Master's acquaintance (as an adopted daughter of his and his mother's, in the old Denmark Hill days) he was then at work on his two famous lectures "Sesame and Lilies" for Manchester, little thinking then that Lancashire would become his home, where some of his happiest, if yet some of his saddest, years were to be spent; and I may add that some of the saddest had a brightness lent to them in which your most distinguished art collector lent a part. And, though no relation of his, I felt proud at the time that my maiden name had been Agnew. It was in purchasing the famous "Splügen"—a Turner that Ruskin had always coveted and offered *carte blanche* for if ever it came into the market. And when he was ill, kind and generous friends, hearing that it was to be sold at Christie's, subscribed 1,000*l.* to buy it for him. Mr. Agnew gave a "bid" beyond this, but when told the story he generously withdrew, though prepared to give anything, and added to the courtesy by contributing his own extra "bid" as a subscription to the gift. It was a pathetic moment for me, having to present that picture, alone, to the beloved Master, when he had sufficiently recovered from that sad illness. He was quietly sitting in his arm-chair in the Brantwood drawing-room, with light on the left. I stood it on a chair in front of him. He leant forward eagerly, saying, "What a marvellous copy. I could almost believe it to be the original did I not know it was impossible." I said, "It is the original and it is yours," and then I told the story of its gift. It has been since hung, as it is now, in a centre place over his bed, where to the last it gave him joy. There is here a drawing by my husband, whose absence in Italy to-day I deeply regret, of the room and the bed over which it hangs—even in the miniature sketch quite recognisable. I fear I may be trespassing too long on your time, but it is all the Lady Mayoress's fault, and you must blame her if I tell you a little story showing the Master's love for and sympathy with children. I once went into his study and found him with my youngest son, Herbert, then about four or five, both with their heads well down, and the child eagerly was saying, "Oh, Deepie" (the children's pet name for him), "do put more smoke coming out of the engine;" and the Master looked up at me with an amused appealing look that said, "See what I am reduced to." He had been drawing, very badly, I fear, a railway train, and was on the point of giving a fine curl off of the smoke from the funnel. That boy has for the last two years been following his child's love of engines in Messrs. Mather & Platt's works, and I am very pleased that he got a day off and is here now, not only in person, but as an exhibitor of his own Ruskin drawings.

Some letters were afterwards read which were received by the Lord Mayor from correspondents who were unable to attend.

Mr. Holman Hunt wrote to say that he was glad to have some of his pictures associated with those of other artists who worked to bring about the reform of art which, quite independently of each other, Ruskin and the pre-Raphaelites devoted themselves to achieve When the pre-Raphaelites were assailed in the first years they had no idea that Ruskin id or would approve of their work, and this was natural, as at the time he was defending the greatness of Turner in that master's last stage of defiant, although supreme and well-ustified execution, and the pre-Raphaelites had no opporunity at that time of knowing what Turner's early works were like. It was therefore a complete surprise to the Brotherhood when in what seemed hopelessly general condemnation Ruskin appeared in defence of the pre-Raphaelite pictures in the Academy. This was in 1851. The letter went on to give a "slight catalogue of dates and facts" to show clearly how independently one was working beside the other, unwittingly, for similar ends, until public declaration of convictions brought them together. Mr. Holman Hunt had the honour of knowing Manchester first in the year 1857, the year of the glorious Loan Exhibition. This placed Manchester in a position which made all artists look to her as setting a fine example to the art taste of the country, an example repeated in the year of the Jubilee, when again she brought together a superb collection of works of art, rarely if ever equalled in England.

Mr. Walter Crane in his letter said :—"In the midst of the din and smoke of the machinery for the increased production of material gain, amid the fierce industrial fight which he saw obscuring the beauty of the earth he loved so well, Ruskin never for a moment lost sight of the truth that after all there is no wealth but life—life in its higher and fuller sense—and that our accumulations of material wealth are of little use unless the conditions of a fair and full human life, however simple, are secured to every member of the community who will work honestly for the common good."

Sir Oliver Lodge, vice-chancellor of the Birmingham University, said that the analytical power and influence of Ruskin's social teachings have not yet reached their zenith, so it seems to me, and I fully expect that he will be still more highly revered by coming generations, when trivialities and accidental mannerisms shall have been forgotten.

Mr. Frederic Harrison wrote :—"John Ruskin was not only a genius who shed lustre on the brilliant Victorian era, but his subtle and pure enthusiasm permeated the entire moral, social and æsthetic atmosphere of his generation."

Appreciative letters were also sent by Mr. James Bryce, Sir W. B. Richmond, Mr. Alfred Lyttelton and Mr. G. F. Watts.

HEREFORD CATHEDRAL.

ON Friday last His Grace the Archbishop of Canterbury dedicated the new west front of Hereford Cathedral. The new front is in keeping with the rest of the venerable pile and is a valuable addition to the mother church of the diocese. Some idea of the extent of the work may be formed when it is stated that the cost is estimated at between 14,000*l.* and 15,000*l.* The complete scheme of restoration, however, will not have been carried out until another stage—the third—has been accomplished. The first stage consisted of a fine stained-glass window, subscribed to by upwards of 8,000 women of the county and diocese to the memory of the late Queen Victoria, at a cost of 1,500*l.*, and unveiled on May 13, 1902, by Princess Henry of Battenberg. The second was the work just completed, described below The third will be the renewal of the fronts of the north and south aisles, surmounted by massive turrets, with staircases leading on to the roofs of the nave. This will be taken in hand when funds permit

To lead up to the work just completed, says the *Birmingham Daily Post*, it is necessary to go as far back as 1786. In that year the whole of the west tower and end collapsed. James Wyatt, architect, undertook the rebuilding of the west end (the tower itself was never again erected), but the result has always proved an eyesore to those educated in matters architectural, for the work was dubbed "Wyatt's folly," and Wyatt himself the "Destroyer," for the fine Norman façade, triforium and clerestory he substituted with feeble Gothic. Matters, however, were allowed to remain till 1896, when the memorable earthquake of that year rendered the upper portions and pinnacles of the front insecure, and the authorities felt that the time had arrived when "Wyatt's folly" should be replaced by something more worthy of a cathedral which boasted an exceedingly fine north transept, a solemn Norman choir and many admirable details, such as the Late Perpendicular adornment of Bishop Stanbury's chantry. Mr. Oldrid Scott, London (son of the late Sir Gilbert Scott, who took such a deep interest in Hereford Cathedral), was consulted, designs were prepared and the present scheme, now two-thirds completed, was the result.

The central portion of the west front (which includes the window above referred to) has been built in the fourteenth-century Decorated style, and throughout is elaborately adorned with beautiful carving. An entirely new narthex has been provided, and it is flanked by two massive buttresses, which, just above the parapet, recede, and are carried on up in the form of pinnacles of the same design as those which adorn the main tower, with the addition of the letters "I. H. S" carved at frequent intervals. Between the pinnacles, in the centre, is a Latin cross, constituting the apex of the façade, and, underneath, above the memorial to the late Queen, is a canopied statue of the Madonna. On either side of the window is a statue—the one on the left being St. Thomas of Hereford, and that on the right St. Ethelbert, likewise in canopied niches. Below the parapet, which is panelled, is more statuary. On the north side of the portal is a full-length figure of Bishop Booth, and on the south side a figure, of like proportions, of Bishop Lorrain (two worthies chosen by the Dean as being the first and last of the great builders of the best Norman work in the cathedral). Lorrain's statue stands on a corbel of oak and Booth's on a corbel of thorn. On the large side buttresses will be placed statues of St. George and the Dragon on the English side (north), and St. David on the Welsh (south). The object of this arrangement is to illustrate in stone the fact that part of the Hereford diocese is in England and part in Wales.

The main arch is cusped and springs from two piers, and is decorated externally with ball-flower, the cusps being lions' heads and roses alternately, while the piers are foliated with bryony and maple. The label of the arch is stopped by long bosses of ivy and bryony. The subject of the centre shield above is a crown radiant cross with the monograms of the patron saints, "S.M." and "S.E.," representing St. Mary and St. Ethelbert. Elaborate vine crockets decorate the main gable, which is crowned by a finial. In the diapers up the faces of the two small buttresses, which stand one on each side the entrance to the narthex, are alternately roses with foliage, and in one row are several symbols—the hand of the Almighty in blessing, surrounded by a nimbus, the "X P.C." monogram of Christ, the Dove descending as the Holy Spirit with interlaced triangles symbolical of the Trinity There are emblems also of the Passion—the cross and nails, spear and sponge; a representation of the Resurrection, showing the empty tomb and the great stone of the sepulchre, the feet of Christ ascending into the clouds and the descent of the Holy Spirit at Pentecost, revealing the cloven tongues of fire descending on the saints. The corbels on the buttresses are of vine, oak and thorn foliage, while the capitals are thorn, fig, ivy and oak. Above the narthex are shields copied from the Stanbury chapel of the cathedral, including those of St. Peter, St. Andrew, St. John the Baptist, St John the Evangelist, St. Matthias and St. Philip. The canopies of the statues of Booth and Lorrain are elaborately crocketed, and terminate in a finial at the cornice line, which is the dividing point of the upper and lower portions of the façade. The parapet is elaborately panelled and ornamented with ball-flower, a style of decoration that has been largely used as being characteristic of the fabric generally.

The inside of the porch is rich in beautiful carving. The capitals are filbert, oak, vine, thorn and ivy, and the centre boss in the groined vaulting shows the ancient arms of Kings Offa and Cantlupe and the deanery crest. The groins terminate in northern, southern, eastern and western bosses. The north is a fleur-de-lis, the south a triple rose, the east shows the date A D. MCMIV., and the west consists of interlaced thorn foliage with the initials "J. W. L." The panel over the inner doorway represents Our Lord seated upon a throne in majesty, and in the spandrels on either side are attendant angels, the one bearing a palm and the other a lily. The label ends on the right-hand side in a figure-head of the late Archbishop of Canterbury (who opened the cathedral library in 1897) and the present Archbishop, representations of Bishop Percival and Dean Leigh carved in stone occupying the corresponding situations on the interior wall of the doorway. On the northern wall of the portal is the following inscription:—"† Hanc porticum Dei gloriæ dedicavit Randalius Archiepisc. Cantuar., fest A B V.M., MCMIV." ("In the name of God this porch was dedicated to the glory of God by Randall, Archbishop of Canterbury, on the feast of the Annunciation of the Blessed Virgin Mary, 1904"). The inscription to the memorial window reads:—"Erected to the glory of God and in memory of H M. Queen Victoria by the Women of Hereford Diocese, May 13, 1902"

The stone used is mottled Hollington (North Staffordshire), which is of a red sandstone nature, excepting the flooring of the porch, which is Portland stone. The contractors for the work were Messrs. John Thompson & Co., Peterborough; the ornamental carving was entrusted to Mr John Baker and the statuary to Mr. Fincher. It is nearly three years since the work was commenced. The Dean of Hereford, who is an authority on the architecture of the cathedral, it should be added, has been the prime mover in bringing about the restoration.

It now only remains to refer to the financial position. The total cost of the new front is estimated at 14,300*l.* The amounts received or guaranteed are:—From the women's contribution 1,500*l*, from the old fund of 1887, with interest, 1,000*l*, and from the Dean and Chapter (cathedral fund) 1,900*l.*, making a total of 4,400*l.* The balance still required is 9,900*l*, of which 5,000*l.* (4,200*l.* of which has been promised) will go towards paying for the work completed. Seven statues have been presented by generous donors at a cost of 380*l.*, viz. St. George, by Mrs. Woodhouse, Burghill; St. David, by Mrs. Markoe, U.S A.; St. Ethelbert, by the Duke of Newcastle; Virgin and Child, by Canon Palmer; St. Thomas of Hereford, by Miss Surtees Allnatt; Bishop Lorrain, by Dr. G. R. Sinclair; and Bishop Booth, by the Hon. Mrs. S. L. Smith The remaining portion of the restoration—the renewal of the west fronts of the side aisles, with the addition of massive turrets—is estimated to cost 5,000*l.*, but this is postponed for the present.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.

THE following will be the officers for the Society's forthcoming year, commencing May 1 next:—President, Mr. G. B. Bulmer, F.R.I.B.A., Central Bank Chambers, Leeds; vice-presidents, Mr. H. S. Chorley, M.A., A.R.I.B A., Mr. W. G. Smithson, A.R.I B.A.; past presidents, Messrs. J. W. Connon, F.R I.B.A, H. Perkin, F.R.I.B.A., E. J. Dodgshun, F.R.I.B.A., W. Carby Hall, F.R.I.B.A., Butler Wilson, F.R.I.B.A; hon. secretary, Mr. Robert P Oglesby, 12 East Parade, Leeds; hon. treasurer, Mr. W. H. Thorp, F.R.I B A., 61 Albion Street, Leeds; hon. librarian, Mr. G. F. Bowman; members of Council, Messrs. R. Wood, C. B. Howdill, A.R.I B.A., P. Robinson, T. E Marshall, F. Musto, A.R.I B.A., G. E. Reason; auditor, Mr. Henry Oliver; collector, Mr. F. E. Yeates.

PLASTERING IN WINTER.

PLASTERING in winter, writes Mr. D. L. Haigh in the *Engineering Record*, is always attended with more or less unsatisfactory results. The walls possibly do not become hard or they are disfigured by yellow stains or smoked a dark grey colour from the fires used to keep the house warm, or there is an unusual amount of cracking; the white or finish coat rubs off like whitewash or most of the plaster peels from the walls, requiring it to be entirely replaced. These and many other defects are due to very simple causes, which with little care can be easily remedied. So little attention has been paid to the question that the causes of the ill results in winte plastering are little understood.

Heretofore wall plaster has been a mixture of varying pro portions of slaked lime, sand and hair made at the building usually out in the open with no protection from the elements If cold weather came on the mixture would freeze and coul not be used until thawed out, with consequent injury to th binding qualities of the material; or, as often happens, th frozen mixture is applied to the walls to soon come off as th frost thaws out. Then, too, the quality of lime used varie greatly, and poor lime is cheap. Sand also differs greatly i quality, and sand that contains a large percentage of loa requires less time to bind it together; but loamy sand makes very inferior plastering mortar. When lime of the best qualit is obtained and good sharp sand is at hand, the proportion that enter into the mixture are uncertain and are guessed at b the labourer who does the mixing. This labourer is the u skilled workman of the job, and if he does not properly man facture the mortar all the skill in the world in applying it the wall by skilled workmen will avail little.

This unsatisfactory state of affairs in making plasterin mortar has now been overcome, as many manufacturing plan have been established throughout the country which slake lim by machinery, dry the sand, card the hair, automatically weig the proper proportions of each and mix the whole togeth thoroughly by machinery and deliver this mixture in a d state to the building in suitable containers, usually jute bag As the material so prepared requires only water to be added the building to make it ready for use it does away with a gre many of the disadvantages of the old way, and has the gre advantage of insuring a uniform plastering mortar of ve superior quality that is easily handled.

Plastering mortars prepared in this way can be taken in the building and mixed with water in watertight boxes on t floor where it is to be used, and this avoids all chance reezing if the building is properly heated, as it should be.

In the treatment of some of the troubles encountered plastering in winter, we will not consider those met with wh plastering mortar is made at the building in the open in t old way, but will consider that if the mortar is made at t building that it is properly protected as far as its manufactu is concerned. With this exception the following commer apply equally to all kinds of plastering mortar.

Plaster is necessarily applied in a wet state, and the surpl water has to evaporate or be dried out of it. It is this surpl water and other dampness in a new building that are the ch causes of trouble in winter plastering.

In winter, when the temperature is low, evaporation tak place slowly or not at all. In most cases the building is co is not enclosed, or possibly the windows have only mus screens, but at any rate the conditions are usually bad drying out the moisture from the plaster and from the other parts of the building. If very cold weather comes on the damp plaster freezes and then there is trouble.

The amount of dampness in a building is very much greater than is usually supposed. In frame structures there is moisture in pretty much everything that enters into it—the brick in the chimneys, the cement concrete in the cellar and bath-rooms, even the lumber contains much moisture. In the larger brick or stone buildings with thick walls, concrete or tile floors the amount of moisture is very great. The greater part of this moisture will have to be dried out of the building sooner or later, but until this is done it is liable to be a source of trouble, and this is particularly the case in winter.

The methods used to get rid of this moisture are for the most part crude, and in many cases are the causes of greater trouble than the moisture itself. In hardening, the plaster of Paris and lime in wall plaster combine chemically with some of the water, either in the form of water of crystallisation or in formation of hydrates. Therefore, all of the water added to wet the plaster does not have to dry out. The so-called hard or patent plasters all contain more or less plaster of Paris; they do not require as much water to be dried out as other plasters that do not contain plaster of Paris; in other words they dry quicker. This chemical change or hydration takes place gradually, and it is not desirable to dry the plaster so quickly as to prevent its taking place properly. An overheated building is quite if not more injurious than an underheated one. The majority of builders regard the ideal drying conditions in winter to be an overheated tightly closed building with no circulation. This is far from being right. Circulation of air is, if anything, more important than heat, if the outside atmosphere is above freezing. On such days as the atmosphere outside is very damp and moist, it is better not to open the windows.

The ideal condition is to have a gentle heat to keep the atmosphere warm, and allow sufficient circulation of air to absorb and carry off the moisture. It is especially important that the heat should be kept up during the night. The proper way to accomplish this is to have the heating apparatus installed in a building and in working order before any plaster is applied. Temporary connections can be made, and heaters placed in the middle of the room. By doing this, and observing the simple precaution of opening the windows from the top during the daytime to allow a free circulation of air to let the moisture out, the greater part of the troubles of winter plastering would disappear. No time is gained by not doing this, and it is a mistake to think that a building can be plastered quicker by starting the work before the building is properly heated. On the contrary, it is much quicker to delay starting the plastering until the heating apparatus is in working order, as the plaster dries out within a few days' time in this case, whereas it is liable to be weeks and months when this is not done.

With a temperature sufficiently high to evaporate the moisture, the plaster dries quickly, and the rest of the work can follow at once, but the usual method is not to wait until the heating apparatus is in order, but to enclose the building with muslin screens and use stoves, salamanders or open fires to dry out the building. Usually the fires are not kept going at night, and in consequence the building (which has probably been overheated in the daytime, as is always the case of the ceilings in the rooms in which the stoves or salamanders are placed), is allowed to become cold at night. The chances are, too, that no precaution has been taken during the daytime to permit a draught of air to circulate through the rooms to carry off the moisture. What is the result? The heat of the day vaporises the moisture and the cold of the night, after the fires are out, again condenses it and it settles on the plastered walls and is absorbed, or if the temperature is very low the moisture freezes on the face of the plaster, which is found covered with ice the next morning. In many cases this process of heating by day and cooling by night is kept up for weeks, with the moisture for the greater part still in the building at the end of that time, or possibly a sufficient amount of it has been gotten out to make the plaster appear sufficiently hard to finish, and the finish coat is applied. Each coat should be thoroughly dry before the next coat is applied.

After applying the finish coat of plaster all moisture from the under coats has to dry through the finish coat, and as the finish coat is denser and more compact than the under coats it takes very much longer for the latter to become dry after the finish coat has been applied than if this drying had taken place before the application of the last coat. The results are usually as follows:—

1. *The Effect of Dampness Remaining in Plaster.*—The most serious effect of plaster remaining damp and soggy and not drying out in proper time is to cause it to lose its set or strength, and in consequence it does not become hard. In other words, the result is the same as if the plaster has been retempered. It is a well-known fact that with plasters or Portland cements when they are retempered their strength is lost. As time goes by, therefore, the plaster that has been allowed to remain wet and soggy dries out, but it is very apt to fall from the wall or crumble away like so much sand.

2. *Staining Due to Dampness.*—The scratch and browning coats of plaster should be perfectly dry before the finish coat is applied. If the finish coat is applied before the scratch and browning coats are dry any staining from the wood lath (sap) or from brick or terra-cotta walls will be carried by the dampness through to the surface of the finish coat, leaving a discolouration or stain. All moisture in the scratch and browning coats, and for that matter in the brick walls as well, dries out through the finish coat, with the result that the latter remains damp until all this moisture has entirely dried out. This seriously injures the finish coat and it is liable to remain soft. In large office buildings where the walls are massive the dampness remains in the plaster for a long time and beads of water are frequently seen standing on its surface. In case of brick walls, when the water evaporates it leaves long, fine crystals of substances that have been brought to the surface in solution. Usually these substances are crystals of carbonate of soda, chloride of soda or other soluble salts. The use of damp-proof paints on brick or terra-cotta walls, before plaster is applied, prevents much dampness coming through the plaster, and they should be used whenever possible.

3 *Effect of Frost on Scratch and Browning Coats of Plaster.*—The general effect of frost on plaster is to seriously injure its binding qualities or strength. The plaster becomes soft and does not set hard, and the plastered wall that has been frozen is liable to fall. If the frost has gotten into the first or scratch coat of plaster and causes it to lose its strength, it will not be strong enough to hold up the two succeeding coats (browning and finish), even though no frost has gotten into these last two coats; but should the scratch coat not be injured to such an extent as to cause it to fall the frost will thaw out, and in this process push off the browning and finish coats.

It is not an uncommon thing to see the browning coat separate from the scratch coat in large sheets where frost has affected the latter. In like manner, if frost gets into the second or browning coat this will be damaged, as in the case of the scratch coat, and if the third or finish coat is applied while frost is still in the browning coat, the finish will be pushed off in sheets when the frost thaws out, just as was the case of frost in the scratch coat.

4. *Effect of Frost on the Finish Coat of Plaster.*—Frost causes the finish coat of plaster to become soft and chalky, and without strength or hardness. The finishing coat rubs off like whitewash and is a constant source of annoyance to the occupants of the house.

5. *Plaster Appears Dry.*—Scratch and browning coats of plaster appear to be dry on the surface when, in reality, underneath the surface they are still wet. This appearance is often misleading, and the finish coat is applied too soon, with the result of having the finish coat remain damp until all the moisture has dried out from the under coats. As the finish coat is less porous than the scratch or browning coats, it naturally takes longer for a wall to dry that has had the finish coat applied while the under coats are still wet, than if the moisture in the under coats were allowed to dry out before applying the finish coat. This dampness in plaster is the cause of the disfigurement of decorations.

6. *Staining and Cracking due to use of Salamanders and Coke Pots.*—The sulphur and smoke from the coke or coal used in the salamander disfigure plaster. The smoke blackens the wall, but the sulphur of the coke unites with the lime in the finish of the plaster and forms sulphide of lime, which is yellow. These are the yellow spots or blotches that appear so often on the surface of plaster that has been applied in winter time. As the sulphur only unites with lime when it is damp, these yellow stains appear in round spots, the moisture drying out in small circles, just as if water were dropped on blotting-paper and were allowed to dry. These small damp spots absorb the sulphur of the coke and cause an unsightly wall. The small furnace used by the plumber also adds to this yellow staining Coke pots when placed too near the recently plastered wall are apt to dry it too quickly, and in consequence draw the wood lath, causing the lath to twist or buckle and the plaster to crack.

7. *Decorating on Plaster that is not thoroughly Dry.*—When plaster is damp, as shown above, the lime, which is a constituent of the finish coat of all plasters (there is no exception to this rule), acts as a bleaching agent. Paper applied on damp plaster therefore will fade or discolour, and paint or kalsomine will be similarly affected. Naturally, the more delicate the tints of paper or kalsomine, the more liable they are to be affected Often rooms are repapered and repainted, and even the second application of paper or paint is spoiled. If the dampness in the wall is excessive, the paint is pushed off from the plaster and peels off in spots several inches in diameter.

Walls should be thoroughly dried before they are decorated, and this takes time. If proper care has been taken in heating the building when the plaster was being applied, and this heat has been kept up until the trim is on and the walls are hard and dry, there is no reason why, with proper precaution, the walls cannot be decorated. Paint is very much less affected than kalsomine or paper. Delicate shades of either are more liable to damage, but if the walls are properly sized they can be decorated with satisfactory results. If very expensive decorations are to be made directly on the surface of the plastered walls it is best to allow the walls to become seasoned for at least one year. When decorations are on canvas or if burlap is used instead of wall-paper little trouble is experienced. The trouble lies in the mistake that plaster that is hard and does not feel wet to the touch is considered by most persons to be dry, but this is far from the truth.

As poor drying conditions in winter are the cause of the troubles of plastering in winter, replace them with proper drying conditions and there will be no trouble. This can be easily brought about by observing the following simple precautions :—

First, a building should be well enclosed. Nothing is gained in time by starting plastering before a building is properly ready to be plastered.

Second, a building should be well heated by furnace, steam or hot-water heat. Salamanders, coke pots, stoves or open fires should not be used. They are not necessary, and their use does not hasten the work. If, however, they are used their bad effects can be materially lessened if care be taken in their use. In case of coke pots or salamanders have them lighted out of doors, so that the first smoke will pass away and the coke become well ignited before they are placed in the house. Coke should always be used and not coal, as there is less sulphur in coke and less smoke than in coal.

Third, a building should be well ventilated. The windows should be opened from the top in the daytime and closed at night. This allows the current of air to circulate through the building and carry out the dampness. It is a great mistake to keep the building tightly closed during the time it is being plastered. Fresh air is a good dryer.

Fourth, if the precautions in regard to properly enclosing, heating and ventilating a building are looked after carefully, there will be little trouble with winter plastering. It is not well to paper or paint too soon on new plastering Even under the best conditions the plaster finish acts as a bleaching agent, and it should be well seasoned before it is decorated When it is necessary to decorate quickly, the precaution should be taken of using canvas or an extra heavy coat of sizing before either papering or painting.

GENERAL.

Mr. G. Hamilton Gordon, A.R.I.B.A., has been appointed by the Secretary of State for the Colonies to the post of Director of Public Works for the Orange River Colony, and is shortly leaving for South Africa

The Competitive Plans for the new Manchester Royal Infirmary are on exhibition at the town hall In addition to the selected design sent by Mr. E. T. Hall and Mr. J. Brooke, the other designs are shown. The architects are Messrs. Henman & Cooper, Birmingham ; Mr A. Hessell Tiltman, London ; Messrs. Young & Hall, London ; Messrs. Thomas Worthington & Son, Manchester ; Mr. H Percy Adams, London ; Messrs. Heathcote & Sons, Manchester ; Messrs. Campbell Douglas & A. N. Paterson, Glasgow ; Messrs. J. Thomson & R. D. Sandilands, Glasgow ; Mr. John W. Simpson, London ; Messrs. Waddington, Son & Dunkerley, Manchester ; and Mr. W. Cecil Hardisty, Manchester.

The Royal Society of Painters in Water-Colours will commemorate its centenary by a dinner on April 27. The company will afterwards adjourn to the galleries of the Society.

Mr. J. A. Campbell, of Glasgow, has been selected as architect of the school for the Sons of Scottish Soldiers and Sailors, which is to be erected as a Scottish memorial of Queen Victoria. The funds amount to 30,000*l*.

Alternative Plans have been prepared for the restoration of Waltham Abbey tower, owing to the opposition raised against the first project, whereby a battlemented parapet with pinnacles was to be erected. The subscribers have approved of plans showing the tower battlemented with turrets corresponding to the existing buttresses.

The Surveyors' Institution will hold their next country meeting at Newcastle-on-Tyne on May 26 and 27. Visits are being organised to the Elswick works, Parsons's turbine works and various other places of interest in Newcastle, and excursions to the Roman wall, to Carlisle, Aspatria, Keswick and other places in the Lake districts. The Council of the Institution have decided to award a gold medal for the best paper, if of sufficient merit, read during the session. Mr. T. Blashill will read a paper on April 18 entitled "London Streets and London Street Traffic"

An Artesian Well, 1,515 feet deep, which is to assist in supplying Gainsborough with water, was opened last Saturday. The well is the deepest in England. The boring was commenced six years ago.

Hengold Church, Oswestry, narrowly escaped destruction by fire on Sunday week last. About nine in the morning a pedestrian observed flames issuing from the fine old wooden tower. An alarm was immediately raised, and the villagers at once formed a volunteer fire brigade. Water was plentiful, and by means of a ladder bucket after bucket was poured on the flames, which were extinguished in time to countermand the order for the Oswestry steam fire-engine. At the subsequent service thanksgiving prayers were offered.

A New Operating Theatre has been opened at the Royal Infirmary, Liverpool. The original scheme, which had in view the establishment of four theatres, has thus been completed, and the institution may now be said to rank amongst the best-equipped hospitals in the country. While simplicity has been the main object in the construction and fitting of all the theatres, the greatest ingenuity has been displayed in the arrangement of the appliances, so that the surgeon may carry out his work with expedition and efficiency. The new theatre is the generous gift of an anonymous donor, who is well known for the deep interest which he takes in all branches of hospital work.

Mr. Batsford is about to publish "Homes for the Country, a new book of designs and examples of houses recently erected by Mr. R. A. Briggs, author of "Bungalows and Country Residences."

At the Last Meeting of the Technical College Architectural Craftsmen's Society in Glasgow, Mr. C. E. Munro, A.R.I.B.A presiding, Mr. James I. Little, burgh surveyor, Kilsyth, delivered a paper on sewage disposal as affecting country houses. In his paper Mr. Little traced the history of the sewage disposal system from the Roman period, explaining the various methods of disposing of sewage in vogue through the Mediæval ages. Mr. Little gave an account of the various precipitation methods of sewage disposal, and finally, in describing the bacterial methods, recommended the septic system as the most satisfactory and economical for either large or smal installations.

Among the Students at the Ecole des Beaux-Arts wh have entered for the Prix de Rome in Painting were seventee ladies. Two will compete in the sculpture section and one i both.

The Municipal Council of Paris have voted 3,000 francs for continuing the excavations under the Collège de France where the remains of a Roman building have been already discovered.

Mr. P. Smith, chancellor of the diocese, paid a visit o the 24th ult. to Radcliffe parish church to inquire into a application for a faculty to restore and renovate the building The question has been before the Consistory Court, when despite some opposition, the Chancellor granted permission fo the work to proceed to allow the reopening of the church It was stated that human remains had been disturbed, memoria tablets and gravestones removed, and in some instance broken ; the position of the baptismal font had been altered the reredos broken and the old marble pulpit smashed. Th Chancellor commented strongly upon these matters. Th subject will come before the Consistory Court.

The Melbourne Shakespeare Society have resolved t erect a memorial statue of Shakespeare in Melbourne. I 1864, on the occasion of the tercentenary of the poet's birth, similar proposal was adopted by the Society and the necessar funds were collected. Owing to a difference of opinion as t the best means of perpetuating Shakespeare's memory th money was devoted to founding a Shakespeare scholarship a the University

The Library Committee of the Court of Common Counci are considering the offer made by Sir Horace Plunkett, vice president of the Board of Agriculture and Technical Instruc tion in Ireland, of an exhibition in the Guildhall Art Galler for a brief period of a collection of works representative Irish art which had been prepared for the St. Louis Exhibitio but could not be sent there on account of the prohibitiv insurance rates charged on account of the Baltimore fire.

M. Marcel, director of the Beaux-Arts, has entrusted t M. Marqueste a commission for the monument to the Orator of the Restoration, which was ordered originally from M. Chap and then from M. Dalou. The work will form a pendant to th Generals of the Revolution, on which M. Antonin Mercié i now engaged for the decoration of the Panthéon.

Mr. S. H. Healing, of Gloucester, and Mr. T. Overbury, Cheltenham, architects and surveyors, have entered in partnership and taken over the offices and architectural practic of Mr. Joseph Hall, late borough surveyor of Cheltenham, Lloyds Bank Chambers, Cheltenham.

At the Last Meeting of the Rural District Council Oswestry, Mr. R. E. W. Berrington, M.Inst.C E, F.G.S., Westminster and Wolverhampton, was appointed engineer f the carrying out of the Gobowen water-supply scheme.

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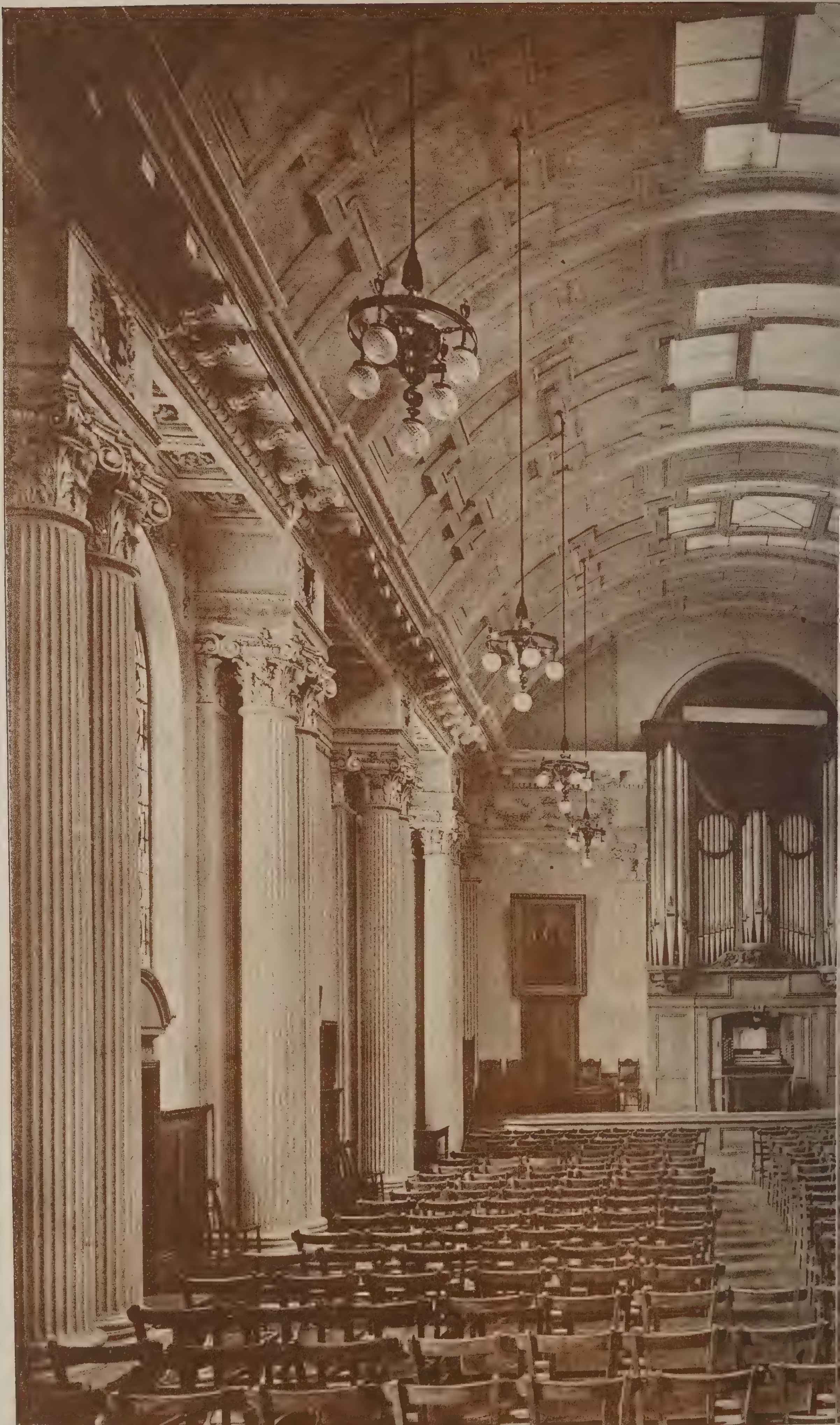

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COLCHESTER TOWN HALL: INTERIOR O

JOHN BELCH

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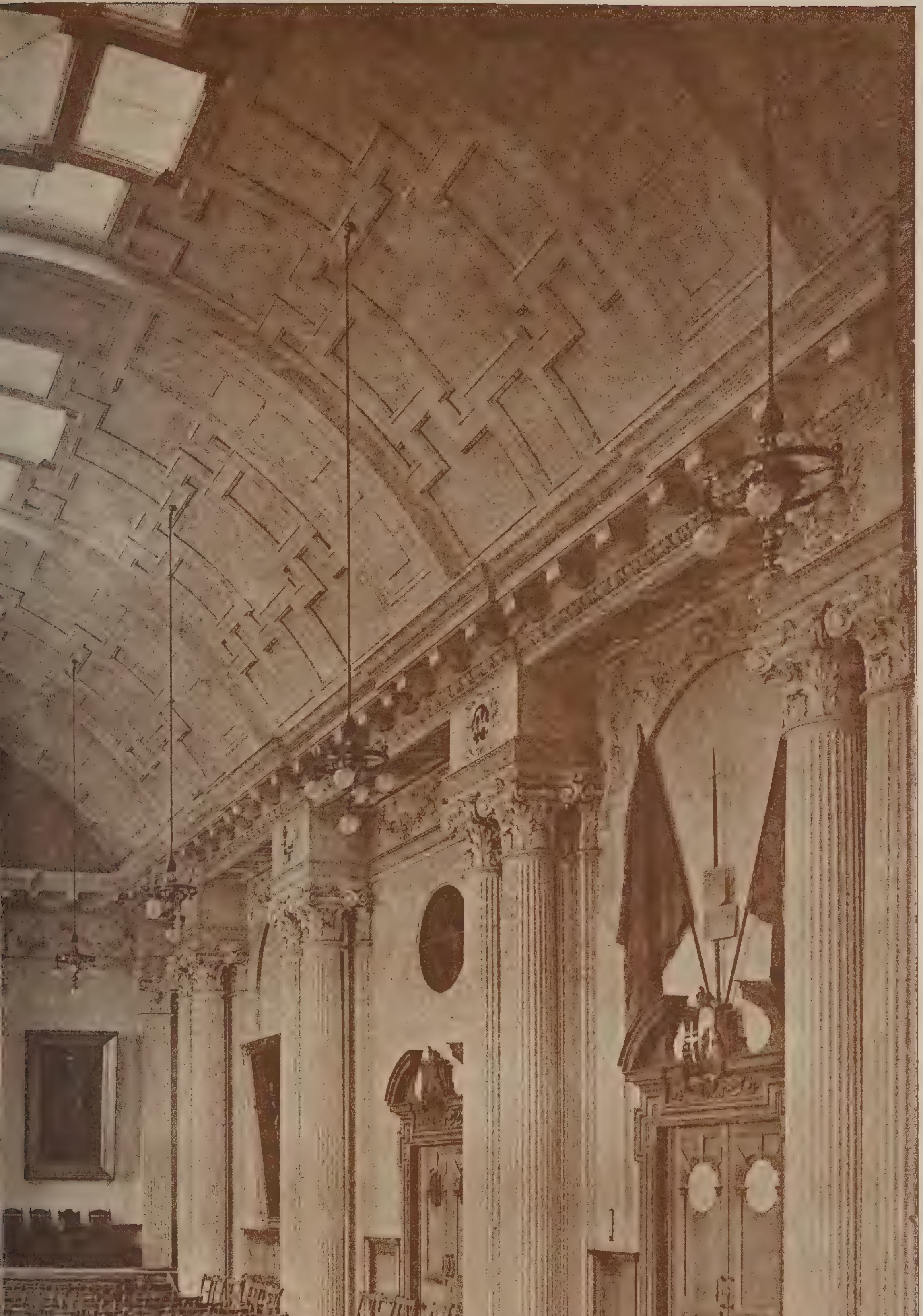

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EAT HALL, LOOKING TOWARDS ORGAN.

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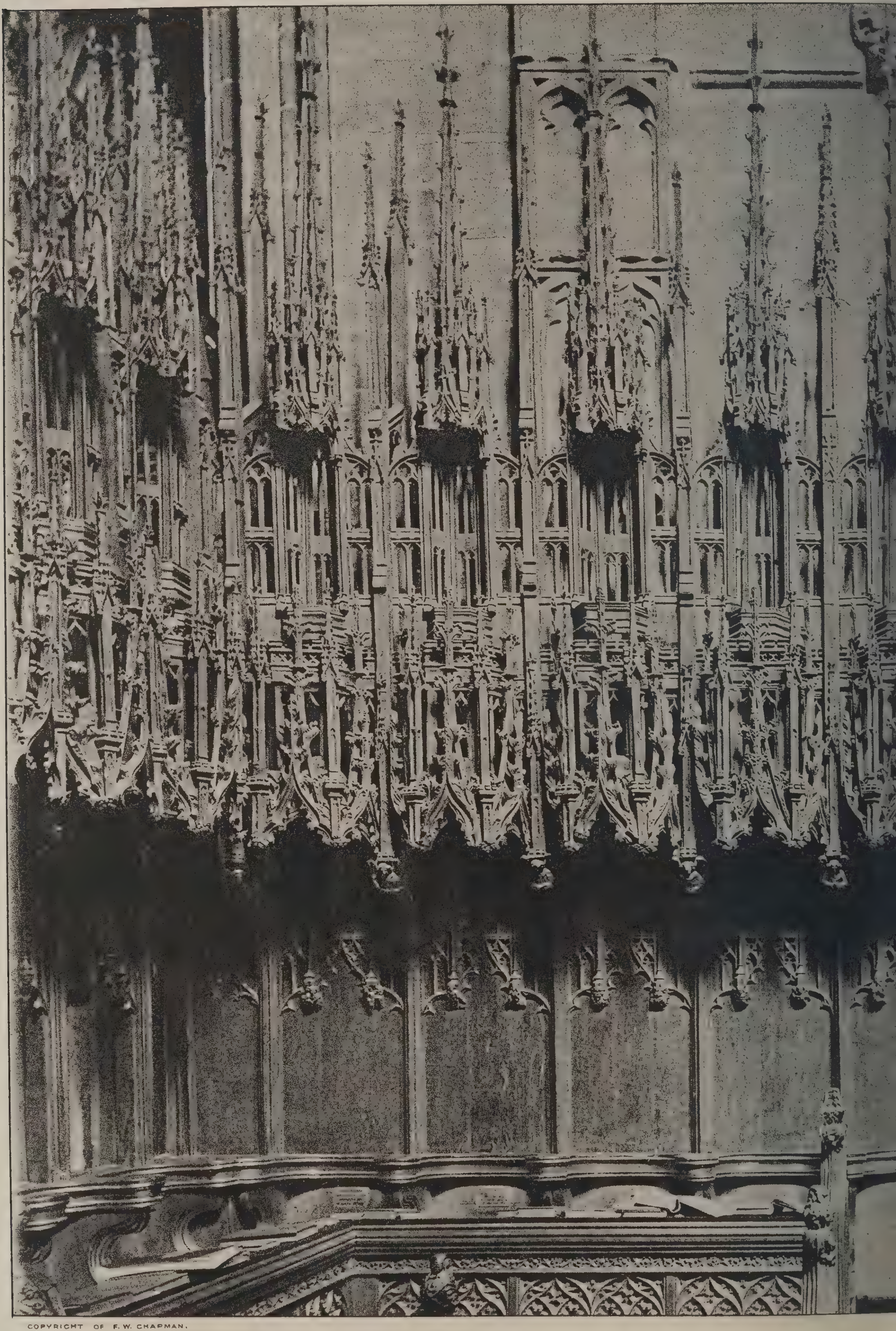

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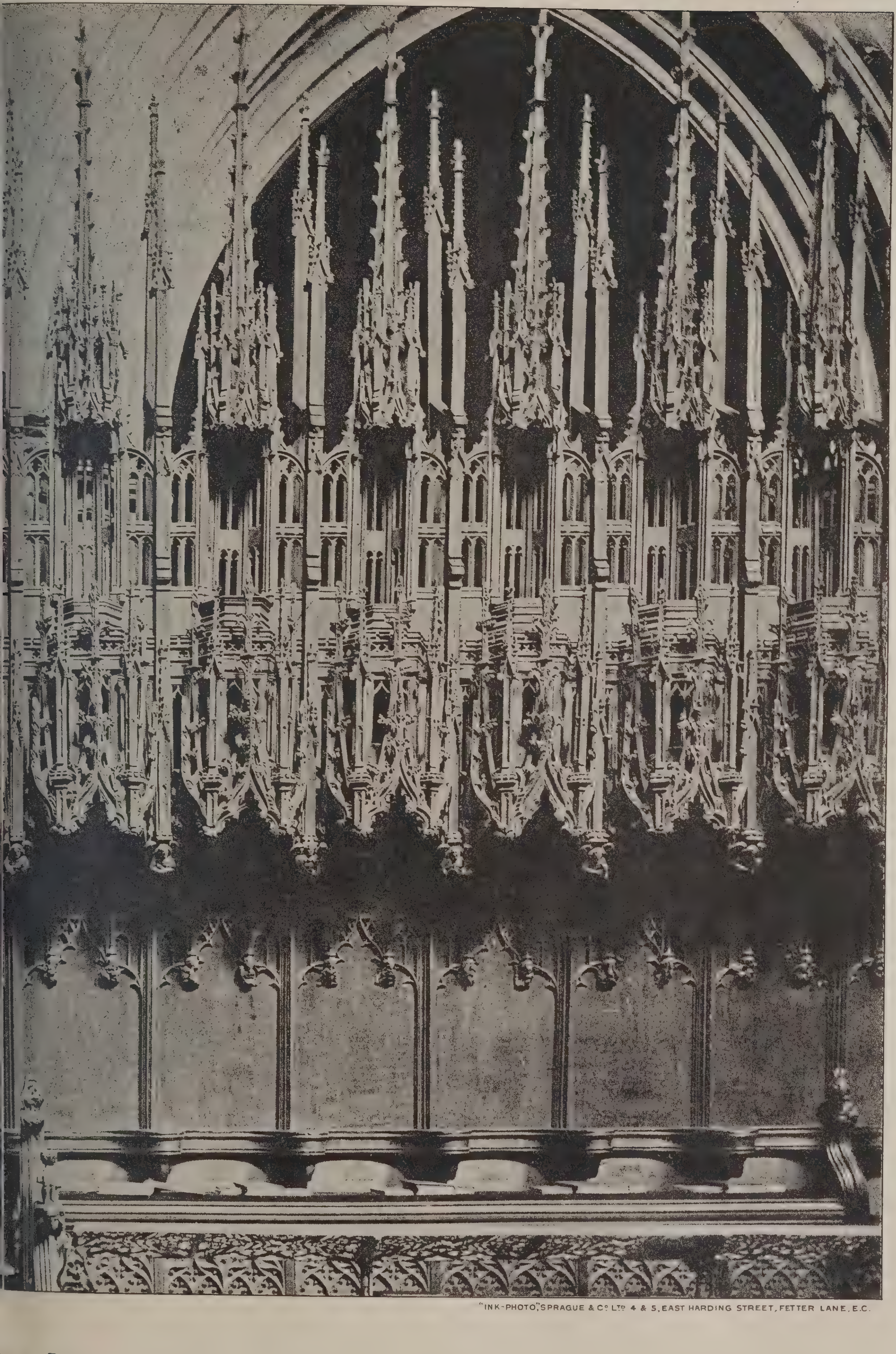
CATHEDRAL SERIES, No. 484.–



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ER: DETAIL OF CHOIR STALLS.

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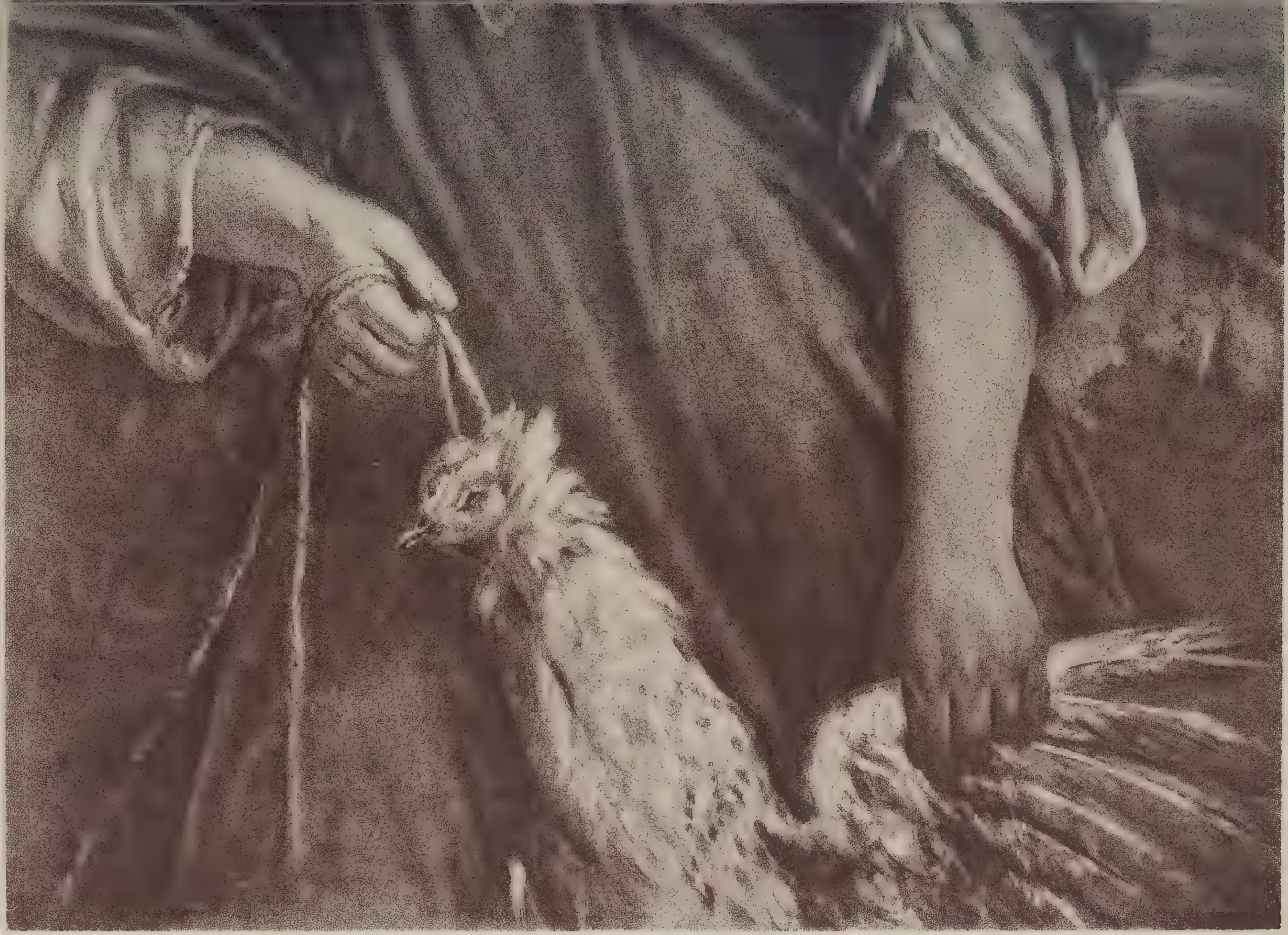

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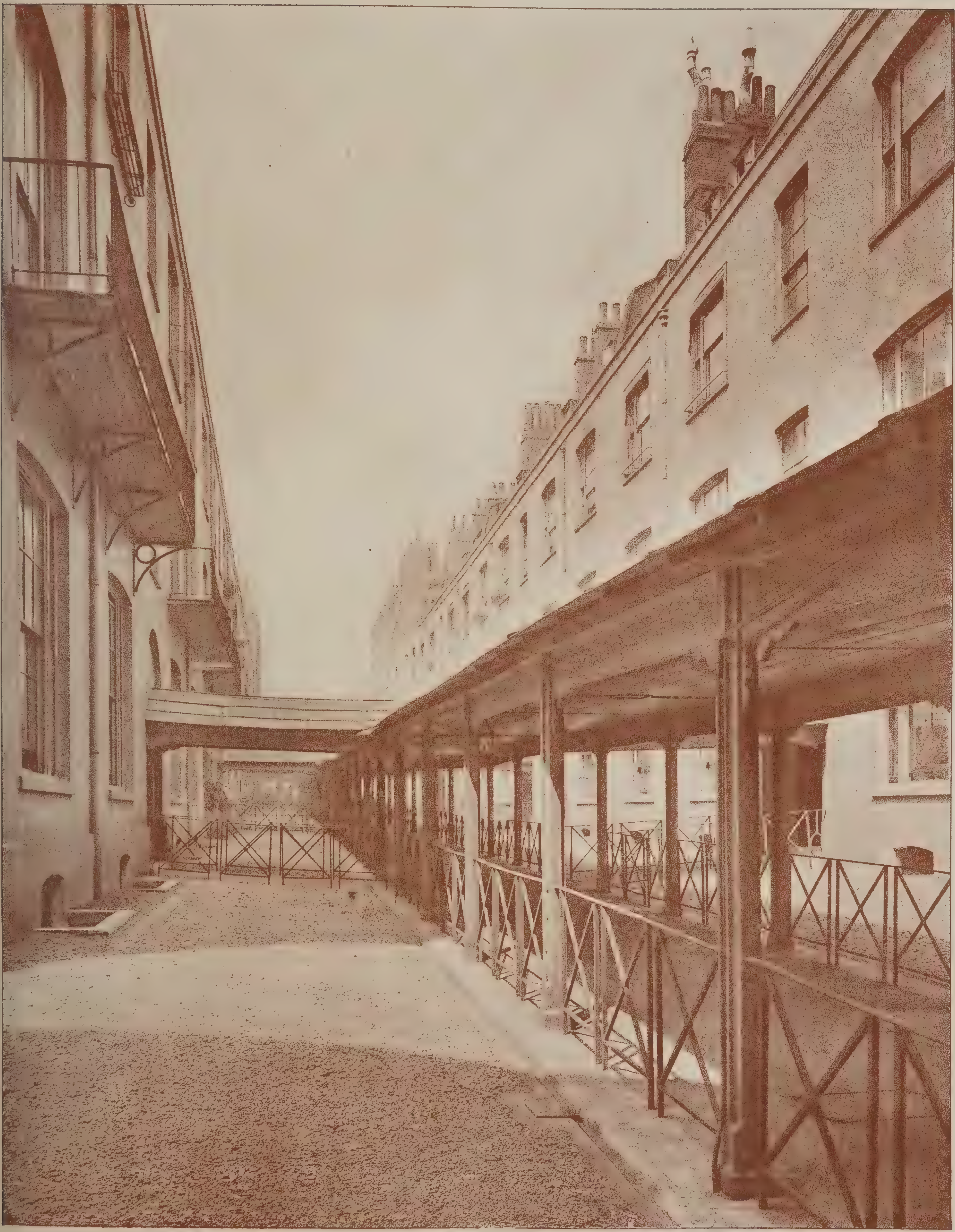
A ROUMANIAN GIRL.

From the Painting by the late M. PORTAELS, Director of the Royal Academy, Brussels.

The Architect, April 8th 1904.



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Rope-Walk: The Albany, Piccadilly.

SIR WILLIAM CHAMBERS, Architect.

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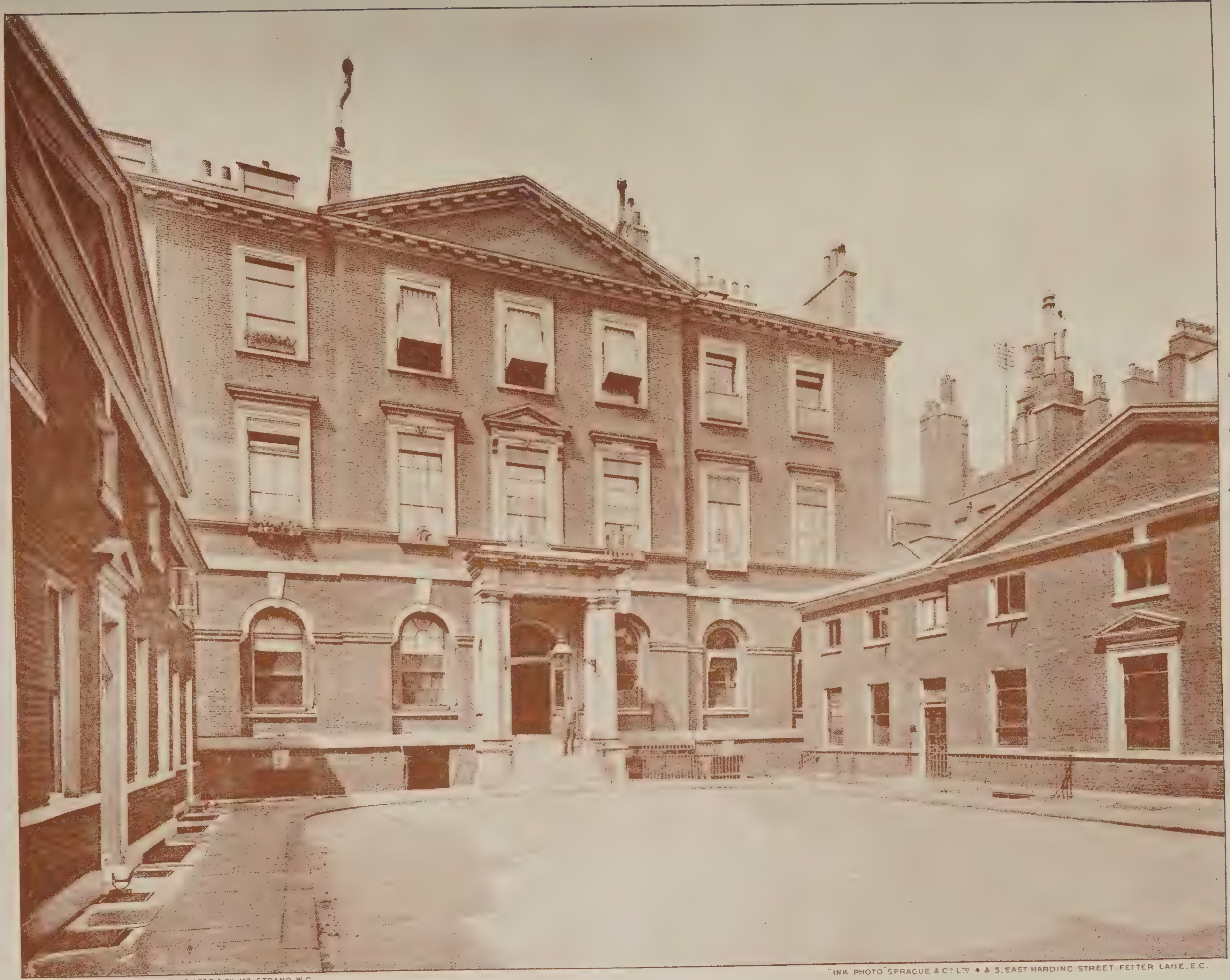
The Architect, April 8th 1904.



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COURTYARD: THE ALBANY, PICCADILLY.

SIR WILLIAM CHAMBERS, Architect.

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The Architect.

THE WEEK.

THE fate of the Iroquois Theatre in Chicago of course excited alarm wherever theatres exist. Vienna has had already a sorrowful experience of a similar tragedy. In other parts of Austria theatres have been also destroyed. A project is therefore under the consideration of the authorities in Vienna which it is expected will receive not only approval but financial support. Herr HELMER, a member of a firm of building contractors, of Vienna, who have already constructed some theatres, proposes to erect n experimental building which is to be submitted to all possible tests. He has obtained the co-operation of the local architectural and engineering society, and all that is required is the money for the building. Herr HELMER recommends that the experimental theatre should be one-fth the size of an ordinary theatre. The stone generally sed in Austria is found to burst into powder when acted pon by fire. It is therefore intended to employ gypsum in he walls, for although it is considered to be soft yet it uninflammable. The curtain will, of course, be iron, and uch of the decoration will be on metal plates. Care to be taken to have the windows protected, partly to test hem and partly to enable experts to watch the progress of e experiment in the interior of the building. Herr ELMER and others consider that greater danger arises om the employment of gas and explosives for lighting an with ordinary building materials. Special attention ll therefore be given in order to provide against this nger. There is little use in such an experiment unless is carried out as completely as possible, and for that rpose foreigners might well contribute towards the penses. It is not to be expected that an individual will come responsible for so large an outlay. This has been oved by M. COQUELIN, whose scheme of a fireproof eatre was proclaimed throughout the world, but which parently has not yet got beyond the paper stage, for the ly test was on a very small scale and was not fully scribed by any of the spectators.

THE building near Mr. WATTS's residence, Limners-se, at Compton, Surrey, which is to be used partly as a lery for Mr. WATTS's pictures and partly as a residence young potters, was opened on Friday last. Hence-h a charge of one shilling for admission will be made Monday, Tuesday and Friday, while on Wednesday, urday and Sunday there will be no charge. The pictures ble a visitor to understand Mr. WATTS's aims in art. was born in London in 1817, and he commenced nting portraits in 1834. Two of them were exhibited in Academy as far back as 1837 with *The Wounded ron.* The latter is to be seen in the gallery. Many of works will realise for the visitor the artist's words when said, "My intention has not been so much to paint ures that charm the eye as to suggest great thoughts will appeal to the imagination and the heart, and lle all that is best and noblest in humanity." There also several of those admirable portraits which will be cord for posterity of many of the most distinguished esentatives of the British race in the nineteenth century.

IT cannot be said that the Workmen's Compensation is unfavourable to those who suffer injuries while ged by a sub-contractor. Indeed, it would appear from ments which are given that the workman in such cases two courses before him, for he may take proceedings nst either the general contractor or the sub-contractor. true that his employer is alone liable, but it is easy to e out that the general contractor is the employer. A contractor is not necessarily an "undertaker," but that not screen the individual or firm for whom he has ged to carry out work. There is some misunder-ling on the subject, as was shown by an inquest held on day. A plumber's "mate" employed on the erection new building in Chichester Rents, Chancery Lane, in search of some tools, stood on an overhanging course of brickwork which failed to support him. He fell on the scaffolding and in some way rolled from it to the ground, a distance of about 30 feet. He was carried to the hospital, but before arrival he had died. It was given in evidence that, although there was a builder, sub-contracts existed for the plumbing, brickwork, carpentry and erection of the scaffolding. The coroner remarked that with such a system there must be large gaps in the responsibility for the safety of the workmen; their chances for obtaining compensation were also reduced. Instead of having one contractor to deal with there were small sub-contractors, and the possibility of obtaining compensation might be practically removed. Mr. TROUTBECK is a coroner of long experience, and, unlike other holders of a similar office, he is not disposed to make rash statements. In general, we may repeat that a workman does not necessarily forfeit compensation because he is engaged by a sub-contractor. The circumstances of the present case are unknown to us, and we offer no opinion upon it. It must, however, be admitted that both contracts and sub-contracts can be taken by men who are poor, and would experience a difficulty in meeting a claim even for injuries. The fault does not lie with the Act, but rather with building owners, who for the sake of economy pay little attention to the financial position of the contractors.

DUNSTAFFNAGE CASTLE, near Oban, like the majority of buildings of its class, occupies so picturesque a position it has been made repeatedly the subject of a picture. At the present time the building is being repaired mainly by the aid of the Duke of ARGYLL and Mr. ANDREW CARNEGIE. One of the rooms is to be converted into a museum for local antiquities. In such a case it is easy to overstep the bounds between restoration and renewing; but we hope the good sense of those undertaking the work will restrain them from doing anything which would cause the ruins to lose their character. The castle was erected at a period when great simplicity was practised in the planning of such structures, and it would be well if the ancient characteristics were preserved as far as possible.

IT is anticipated that the society lately constituted with the title of "Nouveau Paris" will attain its aim by exercising influence on the authorities and inhabitants of the city. With Parisians especially the present is of greater importance than the past. They consider it to be an advantage to display evidence in a material form of survivals of different periods from the advent of the Romans until the Revolution of 1789. But they do not forget that the present age has claims which are imperative and should not be ignored. A proposal for rebuilding the Tuileries which would interfere with the construction of an underground railway station has in consequence received no support. HAUSSMANN and ALPHAND accomplished transformations which at the time were abused because they were supposed to represent efforts of the Imperial Government to render the conquest of Paris more easy in case of an outbreak of another revolution. The long, straight thoroughfares which may have been intended to facilitate charges of cavalry and to enable the artillery to mow down insurgents at a distance are found to be suited for tramways. Means of communication exert an important influence on the life of Paris, and it is now deemed desirable that a great many more wide thoroughfares should be formed. The new society, which at present mainly consists of architects, artists, writers and men who claim the possession of taste, will endeavour to suggest the improvements from time to time desirable. It is not of course intended that commercial interests alone should be subserved. The amenity of the city will be respected in any projects brought forward. Without dictating to the municipal authorities what should be done, it will not be difficult to suggest cases in which benefits to inhabitants and visitors can arise by the expenditure of money which will be amply repaid. There is no opposition to archæologists in the new body. On the contrary, plans may sometimes be brought forward which will have for one of their objects the display and preservation of relics of the past; but the chief desire is to make Paris more beautiful, and at the same time more advantageous to its inhabitants.

A SEVENTEENTH-CENTURY EXPLORATION.

We have lately referred to some of the circumstances which were connected with the patronage of artists by Charles I. The king had resolved to imitate the approved practice of continental sovereigns, and the collection of works of art which he contrived to obtain was remarkable, especially when we consider that he was departing from precedent, which was always strong in this country. Whatever may have been the faults of Charles I. as a ruler, there is no question that English art owes much to him. Although he was the first of our kings who could be considered as an amateur, there was, however, an earlier pioneer who, it is believed, exerted much influence on him by precept and by practice. Peacham, writing about the year 1634, said:—"The every way Right Honourable Thomas Howard, Lord High Marshall of England, as great for his noble patronage of arts and ancient learning as for his birth and place, to whose liberal charges and magnificence this angle of the world owed the first sight of Greek and Roman statues, with whose admired presence he began to honour the gardens and galleries of Arundel House about twenty years ago, and hath ever since continued to transplant old Greece into England." The earl was also described by John Evelyn as "the father of vertu in England, the great Mæcenas of all politer arts and the boundless amasser of antiquities." It was his example, according to Walpole, which inspired the Prince Henry, King Charles and the Duke of Buckingham to become his imitators. The earl's collections have been long dispersed, but the Arundel Marbles in Oxford will preserve his name as long as the University endures. It may be not uninteresting to explain some of the conditions under which he was able to gather many of his treasures.

The position of the earl as the representative of one of the oldest and greatest English families could not be overlooked by James I. There is no doubt the king believed that the earl was one of the most trustworthy of English noblemen. He was no sycophant. The man who could say to Charles I. when there was a dispute about a rectory, "Sir, this rectory was an appendent to a manor of mine until my grandfather unfortunately lost his life, and seventeen lordships more, for the love he bore your grandmother," would not be less outspoken to James I. The circumstances of the time were perhaps rather unfavourable to him, and it is said he lived much within himself. He would therefore be glad to have statues, paintings and books which he could enjoy in solitude. He is stated to have commenced collecting about 1615. His love of works of art must have been well known, for ambassadors and others who lived abroad sent him examples which they thought might have interest for him. Even James I., who was not generous, bestowed upon him in 1616 Lord Somerset's pictures, which were then valued at 1,000*l.* Sir Dudley Carleton, afterwards Baron Imbercourt and Viscount Dorchester, who was a lover of art, was very glad to render assistance to Lord Arundel. One of Carleton's correspondents wrote to say that he offered the earl a *Jupiter's* head which Carleton had sent. But his Lordship declined to accept it through fear that the sale of a collection would be more difficult if one object were extracted from it, that he was already indebted to Carleton, and that he wished the matter to rest until he had deserved more kindness. On another occasion we read that Lord Arundel, accompanied by Inigo Jones, inspected some pictures which had been sent over. But he was timorous about purchasing all, as Lord Denvers was also desirous to have some of them. In 1616 the great antique head was accepted, for we learn that "My Lord of Arundell hath now accepted of the Jupiter's heade and hath placed it in his utmost garden so opposite to the Gallery dores, as being open, so soon as you enter into the first Garden you have the head in your eie all the way." The garden in question was one of those belonging to some of the great nobles which were situated between the Strand and the river Thames. It formerly was owned by Lord Seymour, and a view of the house and garden was engraved by Hollar. A little later we find that Lord Roos, who was a great collector, gave his statues to the earl, who beautified his gallery with them.

In 1622 the Earl of Arundel evidently came to the conclusion that a far wider and more fertile field for a collector was neglected. The sculpture which was obtainable in Western Europe at the time consisted of examples by Renaissance artists, an occasional fragment of Græco-Roman art and many pseudo-antiques. Greece itself was ignored. An opportunity for exploration arose. Sir Thomas Roe was appointed ambassador to Turkey in 1621. Lord Arundel thereupon requested him to act on his behalf in endeavouring to obtain examples of Classic art. Some letters of Sir T. Roe still exist, and they are valuable as evidence of the difficulties which in those days had to be encountered.

In his first letter from Constantinople he acknowledged having received his Lordship's command while in the Downs. He expected there would be no difficulty in procuring relics of antiquity, for they would be surrendered in the hope that they would corrupt the English and divert them from using arms against the Turks. But how were the relics to be discovered? The English consul at Scio was ready to give his aid, and "wee conferred about the Maid of Smirna [a statue probably], which he cannot yet obtain without an especial command." There were many antiquities in marble, especially at Delphos, which could b procured for the charge of digging and fetching, whic must, however, be especially undertaken. It was believe that numerous statues were buried to secure them from th envy of the Turks. Old coins were obtainable from th Jews, but if inquired for became very costly. Roe adds:– "I have a stone taken out of the old pallace of Priam, i Troy, cut in horned shape; but because I neither can te of what it is, nor hath it any other bewty, but only th antiquity and truth of being a peece of that ruined an famous building, I will not presume to send it to you; y I have delivered it to the same messenger, that yo Lordship may see it and throw it away." A second lett was written in May 1623. Sir Thomas Roe says that sought to obtain, as desired by Lord Arundel, an ord for some Greek to be sent to the Morea, but that t viziers gave answer it was no time for such privileg The order, he remarks, would be useless if obtained; there is no obedience in the country, since every pe officer makes use of his place to get money. He co tinues:—

> Antiquities in gold and silver, of the ancient Greeks, fr Alexander downward, and many Romans more ancient, are h to be gathered; but so dear, by reason the last French amb sador made great search, and some Italians are ready to b that I know not whether your Lordship will esteem them such rates. The medals of gold, or old coin, if they be and the inscriptions legible, are held at twice and thrice weight. Some for curiosity, I have bought, with others p tended to be Egyptian, Armenian, and Arabian; but my skil not great, I judge only by the eye; these shall serve y Lordship if you like them. I may also light on some pieces marble by stealth, as now I am offered a lyon to the waist pure white, holding a bull's head in his claws; but the v nose and mouth is defaced, the rest very fair, and they sa *l'antique*; I have not yet seen it, but expect it hourly, if ship meet it not; it was taken up at Lampsacum in Natc On Asia side, about Troy, Zizicum, and all the way to Ale are innumerable pillars, statues and tombstones of mar with inscriptions in Greek; these may be fetched at cha and secretely; but if we ask leave it cannot be obtained.

In the hope he might be useful, the earl sent William Petty, "a man of very good learning and o parts, who hath been long in my house, and is led wi great desire to see Turkey, for he doth not only antiquities extremely, but doth understand them very w It is sometimes said this Petty was afterwards Sir Wili Petty, a versatile man who acted as a physician, a profe a surveyor, a commissioner, and was trusted by Cromv as well as by Charles II. But the protégé of Arundel was the uncle of the pluralist official; he been a chaplain to the earl, and held a benefice. deserves honourable mention as the first English exp in Greece, and in the seventeenth century a man who the position could not avoid considerable suffering. was shipwrecked, and imprisoned as a spy. Roe dec there never was a man more fitted for such employ for he encountered all accidents with unwearied pati would feed with Greeks on their working days, lie with fi men on planks, was all things to all men in order to his ends. But the ambassador was not altogether satisfied about the relative positions of himself and his lordship's envoy. There were some examples of art which Petty claimed, although they were not discovered by him. There were also questions of expenses which arose; but what perhaps was most grievous was that Petty acted independently, without any consultation with Sir Thomas Roe. Besides, the latter was also engaged by a rival collector, the Duke of Buckingham, and the apportionment of the antiquities accordingly became complicated.

One of the most daring of their projects was to remove the ancient sculpture adorning a triumphal arch erected by Theodosius in Constantinople and known as the Porta Aurea. There were six reliefs, and Roe offered 600 dols. for four of them, with the intention of dividing them by lot between the duke and the earl. Petty considered the six were not worth more than 200 dols. A dispute between the two agents was unavoidable, but it was of little avail, for they had overlooked the important fact that the reliefs would have to be removed, and no body of desperadoes to be found in Turkey would undertake the risk. Sir Thomas Roe wrote to the earl as follows:—

> I have tried the bassa, the captain of the castle, the overseer of the grand signor's works, the soldiers that make that watch, and none of them dare meddle. They stand between two mighty pillars of marble, in other tables of marble, supported with less pillars, upon the chief port of the city, the entrance by the castle called the Seven Towers, which was never opened since the Greek emperor lost it, but a counterscarfe and another wall built before it. The vizier dares not, for his head, offer to deface the chiefest port, so many will clamour against him; the captain of the castle nor the overseer of the walls cannot do it without a special command from the grand signor; the soldiers cannot steal them, being 30 feet and 40 feet high, made fast to the wall with iron pins, and must be let down with scaffolds and the help of about fifty men; for if they fall they will break to dust, the ground being so thin and worn with age. There is, then, but one way left in the world, which I will practise, and if I can procure them your Lordship shall know my service by the part I send you, without Mr. Petty or any other help. Within the castle, and on that gate is a continual watch of twenty soldiers. It is the king's prison, and how hard it were to take down such things, of at least a ton weight a-peece, from the Tower gate of London, your Lordship will easily judge. And if I get them not, I will pronounce no man nor ambassador shall ever be able to do it, except also the grand signor, for want, will sell the castle.

The incident suggests the weakness of the Ottoman Government. Roe saw so much indifference to authority, he felt no misgiving about his power to remove the whole gate as well as the figures on it. Petty went to Samos, where he was very successful. He brought his collection with him in a vessel bound for Ephesus. A storm arose and all his antiques were lost. He was saved, and at Scio he made arrangements to recover the lost marbles. Afterwards he was heard of in Athens, and he informed Roe that he obtained many marbles. But Roe considered that the conduct of Petty was not advantageous for the venture. "If we had joined," he wrote, "both might have done more at less charge, because I am informed of many brave things buried in divers places in Greece which by a disjointed inquiry grow dear." There were statues to be found in Corinth, Lacædemon and Achaia, and if the licenses extended to underground remains there would be much at their disposal, but Roe was afraid to employ any but Turks on the work. The Earl of Arundel endeavoured to appease the ambassador, for, as he said, that part of Europe was able to supply infinitely more antiquities than would serve all Europe. His lordship offered a couple of suggestions. One was that no alabaster figures should be purchased unless they were of exquisite beauty, as he was informed the ancient masters never worked in that material. The other was that he did not care for deformed or misshapen stones, however ancient, but where beauty and antiquity were combined he would not mind the cost.

It is now impossible to determine the extent of Lord Arundel's acquisitions. According to one of Roe's letters dated November 1626, "Mr. Petty hath raked together 200 pieces all broken or few entire." That was prior to his efforts in Athens. The earl was not allowed much time to enjoy his treasures. In 1633 he was appointed ambassador extraordinary to the daughter of James I., the Queen of Bohemia. Eight years afterwards he was transferred to Vienna. Between times he must have returned to London. The Civil War compelled him to take refuge in Antwerp. John Evelyn met him often in Flanders, and later in Italy. At Milan Evelyn saw him for the last time, and relates how the earl "caused his gentleman to give me directions all written with his own hand, what curiosities I should inquire after in my journey." His lordship died at Padua in 1646.

The statues which came into possession of the Duchess of Norfolk were sold to Lord Pomfret for the small sum of 300*l*., but the money was needed. The cameos and intaglios became the property of Sir John Germayne, and the medals fell to Lord Winchelsea. A part of the collection was preserved in Tart Hall, which stood near the present Buckingham Palace, but was sold in 1720. The bust of Homer is now in the British Museum. Arundel House was demolished in 1678, but in the preceding year John Evelyn was fortunate in obtaining the marbles, which were left as if they were valueless, for the University of Oxford. His description of the incident is interesting:—

> To London with Mr Hen Howard of Norfolk, of whom I obtain'd the gift of his Arundelian marbles, those celebrated and famous inscriptions Greeke and Latine, gather'd with so much cost and industry from Greece by his illustrious grandfather, the magnificent Earle of Arundel, my noble friend whilst he liv'd. When I saw these precious monuments miserably neglected and scatter'd up and downe about the garden and other parts of Arundel House, and how exceedingly the corrosive aire of London impair'd them, I procur'd him to bestow them on the University of Oxford. This he was pleas'd to grant me, and now gave me the key of the gallery, with leave to mark all those stones, urns, altars, &c, and whatever I found had inscriptions on them that were not statues. This I did, and getting them remov'd and pil'd together, with those which were incrusted in the garden walls, I sent immediately letters to the Vice-Chancellor of what I had procur'd, and that if they esteem'd it a service to the University (of which I had been a member) they should take order for their transportation.

Among the inscriptions the most important is that known as the "Parian Chronicle." When perfect it was an abstract of events in Grecian history from 1582 B.C. to 264 B.C. Art and literature apparently were considered of most importance. One item from it will indicate its character:—"Since Sophocles, the son of Sophillos, who was of Colonos, gained the victory in tragedy, being twenty-eight years of age, 206 years, Apsephion being archon at Athens." The records have given occasion for many dissertations by scholars, the learned John Selden being the first who endeavoured to decipher them. Part of the slab was used to repair Arundel House during the earl's absence, and one piece was found in a chimney.

The character of the Earl of Arundel has been drawn by Clarendon. Walpole says he was not "a mere selfish virtuoso; he was bountiful to men of talents, retaining some in his service, and liberal to all. He was one of the first who discovered the genius of Inigo Jones, and was himself, says Lilly, the first who 'brought over the new way of building with brick in the city, greatly to the safety of the city and preservation of the wood of this nation.'" He attracted Hollar from Prague to London, and Francis Junius, one of the great scholars of that age, was his librarian. A man without music in his soul was assumed by Shakespeare to be only fit for treasons, stratagems and spoils. The Earl of Arundel had a somewhat similar prejudice, for he held "that one who could not design a little could never make an honest man."

Professor Ferdinand Pauwels, the historical painter, died suddenly in Berlin in his seventy-fourth year. By birth he was a Dutchman. At an early age he went to Germany. From 1876 until the end of 1901 he was Professor of Painting in the Dresden Academy. Among his numerous paintings are seven relating to the history of Luther, which are to be seen on the walls of the room occupied by the reformer in Wartburg.

THE BLONDELS.

FRENCH writers sometimes profess to be indifferent to the support which can be given to their work by the Government. Edmond de Goncourt was one of those instances. He expressed annoyance when he received an order from the Minister of Fine Arts for several copies of his volumes on the "Art of the Eighteenth Century." Affectation of that kind is assessed at its true value by the initiated. Authority is so powerful in France it can make or mar the success of a book. This is especially the case when it is not one that might be popular. Without the patronage of the Minister of Fine Arts, we suppose, there would be no chance of finding sufficient purchasers to warrant the contemplated reproduction of such a collection as the "Architecture Française," by Jacques François Blondel, which appeared in four folio volumes, with six hundred plates. Assuming that a large number of copies will be ordered for public libraries and art schools throughout France, a possibility exists that other copies would be obtained by architects and amateurs, and there may be some profit instead of the inevitable loss from the enterprise. The author was one of a family of architects whose lives and works we propose to consider briefly.

It may, however, be premised that, although the Blondels were remarkable both as architects and as writers, they have failed to gain that immortality which no doubt they anticipated. It is only necessary to compare their fate with that of the Mansarts in order to realise the difference. The briefest history of French architecture intended for use by students in elementary classes would not be likely to omit some account of the works of the two Mansarts. We suppose the humblest Parisian is aware that the dome of the Invalides, the Place Vendôme, and a large part of the palace of Versailles are due to the younger of the two architects. We doubt, however, if any but instructed Parisians are aware that the Porte Saint-Denis was erected after a design prepared by a Blondel. Certainly the Mansarts had the advantage of giving their name to an attractive arrangement of a roof, with chambers and windows, while there is nothing in wood or iron to recall the Blondel family. But that cause is insufficient to explain the different degrees of fame allotted to the two families, and we must conclude some other cause was more influential.

The first of the Blondels connected with architecture was François. He was a country gentleman, and was born in 1617 at Ribemont, in Picardy. He must have gained a reputation as a prudent and skilful man, for in his thirty-fifth year he was selected to serve as the mentor of Louis de Loménie, Comte de Brienne. It was not a case of an ordinary "bear leader" like that of Addison with Lord Hartford, the son of the Duke of Somerset. The Brienne family had long held high official position in France. One acted as the ambassador of Henri IV. in London; another was the minister of Louis XIII., and ruled France during the minority of Louis XIV. The young count of whom Blondel was to have charge had reached his seventeenth year, and it was proposed he should visit the principal courts of Europe as he was destined to hold exalted appointments in France. He afterwards served as Secretary of State under Louis XIV.; but he grew out of favour, was for a long time in a state of semi-imprisonment, and finally lost his reason. Other members of the family were among those who suffered in the French Revolution. The voyage of the count was deemed to be of such importance that an official account of it in Latin was printed in Paris. Blondel's success gained for him influence, and he was sent as ambassador to Egypt and Constantinople. He was nominated as a counsellor of State, and finally professor of mathematics to the Dauphin, son of Louis XIV.

A gentleman with so much influence would find no difficulty in those days in obtaining architectural commissions. About the same time that his contemporary Christopher Wren "broke out as an architect," to use Dean Milman's expression, Blondel undertook the reconstruction of a bridge at Saintes. One advantage arose from his appointment, for he saved the triumphal arch erected in the reign of Nero by Caius Julius Rufus. The arch, however, was taken down in 1844, but was carefully re-erected. The reputation attained by Blondel led to his appointment as chief architect for the public buildings in Paris. The principal work associated with his term of office is the Porte Saint-Denis, which is familiar to every visitor to Paris. It now seems to be an anomaly, for it stands in the line of the Boulevard, and is to some extent an obstruction. But in the seventeenth century it served as a gateway to the city. It was intended for a memorial of the victories of the king. Under the cornice the inscription *Ludovico Magno* is introduced. The piers have engaged obelisks, on which ancient arms and ensigns are sculptured with figures symbolic of the victories. Over the arch on one side is a relief representing the *Crossing of the Rhine*, and on the other the *Capture of Maestricht.* The arch is to be primarily regarded as a glorification of Louis XIV., and it owes its character mainly to the sculpture which was designed by Girardon. Fergusson considers the arch to be a very original and very grand design, and believes the Arc de l'Etoile was imitated from it. The neighbouring Porte Saint-Martin was designed by Pierre Bullet, who had charge of the works at the Porte Saint-Denis. It is a less impressive structure, although its purpose was similar to that of the first arch.

Blondel was able to render services of another kind. The French painters and sculptors had succeeded in obtaining the establishment of an academy of art in 1663, and in 1666 the Prix de Rome was founded. The members declined to recognise architects. It was not until 1671 that an Académie Royal d'Architecture was opened. The inaugural address was delivered by Blondel, who selected as his subject "The Excellence of Architecture." It was not, however, until 1720 that architects had their Prix de Rome, and it was about the same time their academy was recognised as on an equal footing with that of the painters and sculptors. Blondel became director, and the course of lectures he delivered was published in a folio volume dedicated to Louis XIV.

In Rouen there were other Blondels who followed architecture, but it is doubtful whether they were related to Blondel "le Grand," whose career we have sketched. One was Jean François Blondel. He was allowed admission to the academy of painting and sculpture as an amateur, and was the architect of the Hôtel des Consuls at Rouen. Afterwards he went to Paris and obtained the direction of the fêtes given by the city on the occasion of the marriages in 1743 and 1747 of the son of Louis XV. with a Spanish and with a Saxon princess respectively. He brought out a series of plates illustrating the scenes, which are interesting as records of the fashion of the period and the French manner of displaying loyalty.

There was a second architect of the same name who was remarkable for the number of books he produced. He established a school of architecture in Paris which was regarded as an auxiliary rather than a rival by the Academy of Architecture. As has happened with writers on architecture at a later time, he does not appear to have been entrusted with any great buildings. He is said to have constructed the episcopal palace at Cambrai, and another at Metz; he also prepared plans of some of the French cities. His books probably occupied too much of his attention. His first work was in two volumes, and treated of the planning of country houses and of architectural decoration in general. The second is the work we referred to at the beginning of the article. It consists of four volumes with six hundred plates, showing plans, elevations and sections of the churches, houses, and most important buildings in Paris, as well as of the châteaux and country houses in the environs of the city. His course of civil architecture occupies six volumes of text and three of plans. An extract from it on architecture and the subsidiary arts and sciences appeared separately. Blondel died in 1774 in his sixty ninth year.

His son Jean Baptiste Blondel was born in 1764. He witnessed the Revolution. One of his works was the market of Saint Germain. It stood on the site of an ancient fair ground established in 1482. It was surrounded by a wooden enclosure, which was destroyed by fire and reconstructed soon afterwards. Napoleon resolved to have the place transformed into a market worthy of the capital, and the design was entrusted to Blondel. A special market was provided for the butchers. Blondel brought out a volume describing it. Another work with which he was connected was the building for the Minister of Public Worship, which it was proposed to set up in the Temple, a place which of late years would seem to be one of the most unfitted in Paris for a minister and an important Government office. Originally erected for the Order of the Templars, with a church resembling that of the Holy Sepulchre in Jerusalem, the buildings in course of time ceased to have any definite purpose. At the Revolution they became national property. Louis XVI. was at first imprisoned in the prior's house. Marie Antoinette was also for a time confined there. During the reign of Napoleon the Temple served as a State prison. The prior's house, after being used as a barracks, was assigned to the Minister of Public Worship. But before Blondel had carried out all the works Napoleon was defeated. The building was used by some of the representatives of the allies. Louis XVIII. assigned the house to the Princesse de Condé, who converted it into a nunnery. In Louis Philippe's time the right to make away with what was national property was attacked. Then came the Revolution of 1848, and the nuns were turned out. The prior's house was utilised for the staff of the National Guard; then it became a barrack, and in 1854 it was cleared away. Blondel did not long survive his disappointment, for he died in 1825.

All the Blondels, it will be observed, produced books which were illustrated by copper plate engravings and etchings, which were not always confined to the representation of their own buildings. The nine plates illustrating the marriage fêtes, for instance, were taken from temporary structures designed by the architects Servandoni, Gabriel and Salley. But with the exception of François, who possessed Court influence, none of the Blondels were enabled to design a structure which can be considered as one of the excellent examples of French architecture. All the men we have named gained prominence, but they were not favoured with commissions of such a kind as would be expected. As long, however, as French Renaissance architecture continues to be studied the six hundred plates of the "Architecture Française" will retain more or less value. It is not to be supposed that in all cases the representations of buildings in that work are as accurate as those undertaken in our time, but at least they serve for reference. The Blondels were not the first French architects to bring out illustrated treatises, for in the sixteenth century Androuet du Cerceau produced several works relating to "des plus excellens Bastimens de France," which will always be treasured. In that case also we find several architects of one family, but they were more fortunate than the Blondels, for their names are associated with noble buildings.

THE VICTORIA AND ALBERT MUSEUM.

The English earthenware from the Jermyn Street collection has now been classified and arranged. Among the later additions to the pottery section of the Museum is a drug-vase made by Masseot Abaquesne, of Rouen, in the sixteenth century, presented by Mr J. H. Fitzhenry A rare, if not unique, porcelain bowl, with decoration in the style of Rhodian earthenware, made at Florence or Pisa and dated 1638, has been lent by Mr. Henry Willett The collection of pewter has been enriched by gifts and loans from Mr. J. H Fitzhenry and Colonel Croft-Lyons In the water-colour galleries will be found three bronze statuettes by Alfred Gilbert, R.A. The first is entitled "Perseus arming." The hero wears a winged helmet, and grasps a short sword by the scabbard with his left hand. He is looking down towards his right foot, on which he has just fitted one of the talaria or winged sandals given to him by Mercury. Another figure called "Comedy and Tragedy," represents an actor holding a mask. He has just been stung by a bee. The expression of pain is lost when the figure is viewed from a position in which the head is visible through the open mouth of the mask. The third statuette—"An Offering to Hymen"—is that of a young girl, holding in her hands a tiny winged figure and a stem of flowers In the same gallery is a replica of Rodin's marble figure in the Luxembourg, Paris, "La Danaïde," lent by Mr Gerald Arbuthnot

At the end of the Prince Consort gallery, near the collection of illuminated manuscripts recently given by Mr George Reid, two additional cases of manuscripts are now shown for a short time. Eleven of these are lent by Mr. Wyndham F. Cook; the others are from the collection in the National Art Library. Those belonging to Mr. Cook are of the fifteenth and sixteenth centuries. Prominent among them are a fragment of a Northern French book of hours of the end of the first half of the fifteenth century, and a German manuscript of the sixteenth century, with exquisitely painted flowers, butterflies, &c., and two naturalistic landscapes.

The seven manuscripts from the library collection include a beautiful missal from the monastery of St. Denis, near Paris, of the first half of the fourteenth century; a Persian Koran of the middle of the seventeenth century, and a German twelfth-century psalter, with one other French manuscript, two Italian manuscripts and a Dutch one. Close by are three cases containing original drawings, the work of modern English book-illustrators. Phil May is represented by a characteristic study on brown paper and by several pen-and-ink drawings for process reproduction in *Punch* and elsewhere. Near them are two pen-and-ink drawings by Charles Keene, reproduced by wood-engraving in *Punch*. G. Du Maurier's original pencil studies and finished pen-drawings for *Punch* are exhibited along with proofs of the wood-engravings The work of Frederick Barnard is illustrated by three characteristic drawings in pen-and-ink. There are also four mounts containing nine original water-colour drawings by Kate Greenaway, made for her well-known picture-books.

In the furniture section are two carved wood-coffers of Tyrolese and South-German work dating from about 15:0, of a style scarcely represented hitherto in the museum collection, also an oak bed-front from the north of Europe, probably seventeenth-century work.

Amongst the vestments exhibited in the east cloisters of the north court will be found two interesting dalmatics and a chasuble of the later years of the fifteenth century, which are said to have come from the church of St. Severin, at Cologne; they are of stamped woollen velvet with embroidered orphreys. In an adjoining case is a mauve-coloured velvet cope, decorated with appliqué work and embroidery; on the hood is represented the Virgin and Child, whilst Our Lord in glory appears in the middle of the orphrey, with St. Peter, St. Bartholomew and St. Ursula to the right, and St. Paul, St. John the Evangelist and St. Andrew to the left, beneath canopies. This splendid example of ecclesiastical embroidery is German work of the early sixteenth century.

At the end of the south court, in a case facing the lace collection, is hung an altar-frontal in three panels, which is a characteristic piece of Flemish pillow-lace of the seventeenth century, with bold scrolling patterns united by bride's picotées. The smaller articles of costume, which are grouped in a large case at the foot of the art library staircase, have been enriched by an embroidered silk bodice with slashed sleeves, probably made in Italy during the early years of the seventeenth century

Some Tudor tapestry hangings, which for many years were on the walls of the audit room of Winchester College, have been lent by the Warden and Fellows of the College, and are exhibited in the Tapestry Court, where they will remain for a few days longer Two of these hangings form part of a tapestry of great beauty and are unusual in design. The field is in broad vertical stripes of red and blue covered with a pattern, over which are the following devices, repeated:—The Sacred Monogram, red and white roses and shields azure, three crowns or.

The central portion of the tapestry is missing, but a detached fragment bearing the Agnus Dei evidently belonged here. The combination of the red and white roses probably refers to the union of the two rival houses under Henry VII. and his queen, Elizabeth of York. It is an interesting fact that their eldest son Arthur, the first prince who united the claims of the two houses, was born at Winchester in the year 1486. The tapestry dates from the latter years of the fifteenth century.

Two other examples form portions of a large tapestry which had for its subject the story of David and Abigail. The tapestry is a Flemish production of the second half of the fifteenth century.

Another tapestry, less important in its character, has the advantage of being complete It represents a group of figures, enclosed by a border of fruit and flowers. It was most probably woven at Brussels soon after the middle of the sixteenth century.

In the Indian section of the Museum is an interesting collection of personal ornaments worn by native women, chiefly bracelets, armlets, anklets and toe-rings in white metal and brass; for the most part they were found in Central India and the North-West Provinces. They are the gift of Miss E. M. Herbert Wright.

A Memorial of Shakespeare will be unveiled in Weimar on the 23rd inst., which is the anniversary of the dramatist's birth in 1564. On the preceding evening there will be a representation of "Hamlet" Various festivities are to be held during the day, in which representatives of the various Shakespeare societies will take part.

THE CRYPTS IN GUILDFORD HIGH STREET.

AN interesting communication from Dr. G. C. Williamson appears in the *Surrey Advertiser*, in which he says :—In the controversy that has raged about these crypts within the past few weeks some facts which bear upon their history have been overlooked, and I have been asked to put together such information as is known concerning them for the benefit of visitors.

It is rather strange that the standard history of the county, Manning and Bray (1804), does not refer to these crypts at all. There is no reference to them in Aubrey's "Antiquities of Surrey" (1719), nor in Salmon's "Antiquities of Surrey" (1736), and the printed information concerning them has to be taken from Grose's "Antiquities of Surrey" (1773), and from Brayley and Britton's "History of Surrey" (1850), in which the description given by Grose is quoted. These can be supplemented by the information written by F. Laurence in 1842, published by G. W. and J. Russell in 1845, and illustrated from drawings by C. C. Pyne. This latter book it should be mentioned is often quoted as Russell's "History of Guildford," but was not written by any member of the Russell family, the far earlier volume, of which the principal edition is 1801, having the right to be called "Russell's History." It would appear, therefore, that the older historians of the town were not familiar with these interesting buildings.

The first point to be noted with respect to them is that the two crypts, one under the Angel and the other under the Savings Bank, are very similar, and must have been erected at about the same time. The one under the Savings Bank is about 32 feet 6 inches by 19 feet 6 inches, that under the Angel 32 feet 3 inches by 19 feet. Both crypts have groined roofs, supported in the central line by two circular columns, each about 5 feet 6 inches high and 18 inches in diameter, from the capitals of which and from the sculptured corbels attached to the walls spring a series of intersecting ribs, forming pointed arches, the extreme height of which in the south crypt is 9 feet 6 inches. The bases of the columns in the crypt under the Angel are larger than those in the south crypt, the columns have no capitals, and the intersecting ribs which spring from them are perhaps a little less pointed. The extreme height of this crypt is 10 feet 3 inches. The sculptured corbels in each crypt represent grotesque human heads. The north crypt is distinctly plainer and simpler in its character than the south one, but they have many characteristics in common.

In the north there are still signs of fresco work, and in the south-west bay can yet be seen the traces, painted in red and white upon the plaster, of what appears to be a representation of the Flight into Egypt. In the early part of the last century a much more important fresco existed in that crypt, which clearly depicted the Crucifixion and the two attendant figures of the Blessed Virgin and St. John. It was sketched by a member of the Russell family, as even in his time it was fast fading away, and his sketch shows us that, both in drawing and in colouring, it bore a marked resemblance to the fresco work in St. Mary's Church. So far as I am aware, there has never been any fresco work to be seen in the more decorative crypt on the south side.

In the centre of the High Street, between these two crypts, tood the "Fyshe Crosse," and when the repaving of the High Street was carried out, a large circular mass of brickwork was discovered in the centre of the street, which was pronounced to be early fourteenth-century work, and was clearly intended as the foundation of a large and heavy building. The "Fyshe Crosse" was removed in the thirty-fifth year of Elizabeth. In the previous year it is spoken of in the town books as the "Whyte Crosse," the "White Fryers' Cross," the "Fryers' Crosse," and "the round house, called the Fryers' Fyshe Crosse in the parish of St. Mary's eastwards on the south side of the street."

In the thirty-fifth year of Elizabeth the statement in the town book reads as follows :—"The Fyshe Crosse standing neare the Aungell in the parish of Saint Mary in Guldeford shall be forthwith removed, and the place for sellinge all kinde of fresh fish shall be at all tymes for ever hereafter kepte and used in the place where the same now standeth, and a convenient place shall be appointed and built there for the same."

There does not appear ever to have been a fish market built, and down to 1820 the stalls for the sale of fish were erected in the centre of the High Street, opposite to the Angel, although hardly anyone knew the reason for holding the market in that curious place, and, as contemporary letters show us, it was a source of great bewilderment to many visitors to Guildford. John Russell tells us in his "Note-book" that the fish cross had on its summit a flying angel carved in stone, that it was erected by the White Friars in 1345, and, being a great obstruction to traffic, was removed in 1595.

It is not easy to say definitely what friars are referred to in these quotations. Speed tells us that there was a house of Crutched Friars in Guildford, and one edition of Dugdale gives the same information. It was probable that they had their Friary on the corner between what is now London Road and Epsom Road The Dominican Friars had a very important house in Guildford, a long history of which I wrote in 1890. It was established in 1274 on the occasion of the death in Guildford of Prince Henry, the heir to the throne, son of Edward I., and Queen Eleanor of Castile, and in the church attached to the Friary the heart of the prince was deposited. This house of Black Friars lasted till 1538, and was surrendered on October 10, in accordance with the decrees for the suppression of the monasteries, one of which was signed in the parish of St. Nicholas, Guildford.

Edward II., in the eleventh year of his reign, formed the design of adding to this Friary a Sisterhood of the same Order, for seven sisters, and of endowing it with a competent revenue for its maintenance. He went so far as to grant some ground in the town near to St. Mary's Church for the purpose in 1317, and he wrote from Wallingford on April 2, and again twice on October 6, 1318, to Rome, to the Pope and to the Cardinals, as to this foundation, sending Richard de Birton and Andrew de Aslakeby, brethren of the Order, thither in person to support his request. The letters are quoted in full in Rymer's "Foedera," and are very interesting documents, but there is not much evidence as to what was the result of this correspondence, although the king's petition was certainly granted

Tanner suggests that the seven sisters of the Order o St. Dominic did not come to Guildford, but to Kingsclear; the Rev. C. F. R. Palmer, who was the historian of the Dominican Order, stated that he was quite certain that seven sisters of one of the Orders of Friars did settle in Guildford during the time of Edward II., but whether they were Dominicans or Carmelites he was not able to prove. He was inclined to think that they were Dominicanesses, but he believed that they remained in Guildford a very short time and were followed by Carmelite Friars. He assured me that in the early part of the reign of Edward III., say about 1330 he had evidence in the Household Rolls of the existence ir Guildford for a few years of a Carmelite house, dedicated t Our Lady, St. Michael, and all Holy Angels, which receive the king's bounty.

The Carmelites were usually called the White Friars, from their white cloak. They came to England in the thirteenth century, the Whitefriars Church in London having been founded in 1241, and there are many references in the Guildford books to the Fish Cross in connection with their name and it is probable that they it was who erected this building in the same way as they erected one at Aylesford.

Each Carmelite house was complete in itself, there was n mother house or central authority, and it is therefore the Orde which it is most difficult to trace with certainty. Fathe Palmer, however, said that the very small one in Guildfor possessed a guest-house, and it is probable that we have record of this house in the name of the Angel Inn. I believ that the convent existed on the south side of the street, an that the south crypt or undercroft is the only portion of th building which now remains.

Probably the Angel Inn occupies the site of the gues house. The sign of the Angel is a very rare one in Englan The first coffee-house in this country was established at th sign of the Angel in Oxford; there was an Angel tavern i Smithfield, where Joe Miller, the well-known actor and wi used to play; an Angel at Basingstoke, often visited by Be Jonson; and an important inn at Grantham known as th Angel, which was originally a Knight Templar foundatio Another Angel was in the Strand behind St. Clement's Churc and to that Bishop Hooper was taken in 1555 when on his wa to the stake. The best-known Angel Inn was, and still is, th one at Islington, and the fine timber-built erection was onl pulled down as recently as 1819. These seven are almost th only inns bearing the sign of the Angel, although there a very many in the country in which the Angel is associate with some other sign. Each of the six had some connectio with a religious house which had preceded it, and it is ther fore probable that our Angel was not an exception to the rule

There were three religious guilds in Guildford in the fou teenth century, those of Corpus Christi, Jesus, and the Ho Angels. Two of them received important bequests in 149 but there is no trace of their ordinances in the British Museu nor have we any reference to the place where they met. seems possible, however, that one at least of them was co nected with this religious house.

It does not follow that either of the undercrofts was use for religious purposes. Laurence, in the book already quote implies that it was so, but it is much more likely that they we places of storage under the house. The presence of frescoe however, in the north crypt, may have reference to the meeti of a guild in that building, or the frescoes may have been su religious ornamentation as was frequently applied to simil buildings, and would very naturally be applied to rooms connection with a religious house.

In the south crypt the principal entrance is by a descendin flight of steps from the street, but there has evidently be another entrance, now bricked up, and in some sketches do by Hassell in 1834 this entrance is to be seen. On the east side also, as Brayley pointed out, there is an indication of a passage about 6 feet in height and 2 feet 4 inches wide, and in one of the east bays there are two large orifices, one of which bears a sort of resemblance to an aumbry or piscina.

When Brayley wrote his history there was a theory that the crypts were connected with the castle, but this he dismissed, and suggested that they had far more the character of buildings relating to a religious foundation than of those connected with a fortress. This suggestion is probably the correct one. In the north crypt there is also the sign of another entrance, and from the passage leading to it there is recorded in a note-book written in 1800 to have been communication with another vault now blocked up.

In the possession of Mrs. Butler there are some beautiful drawings of both crypts, one the work of Mr. Prosser in 1838, from which an engraving was made, and others earlier, which were probably drawn by Mr. Hassell. From a sheet of detailed drawings in the possession of the same lady it is clear that the corbels were, in the early nineteenth century, in far better condition than they are at present. The vaulting has some slight characteristics in common with that of Waverley Abbey, and can certainly be attributed to late in the thirteenth or early in the fourteenth century. All the work is, of course, in chalk, and the arches are beautifully formed, the keystones especially being of excellent workmanship.

The two crypts are almost unique in Surrey.

There are not more than half a dozen examples of early fourteenth century architecture in the county, and of this number these two undercrofts are by far the most important.

There are two engravings of the south crypt, one executed by Hawkins in 1770 for a work on ancient architecture, published by Hogg, 16 Paternoster Row; the other the work of Godfrey, engraved for Grose's "Antiquities" on July 1, 1773. This plate was re-engraved by S. Hooper, May 30, 1875, for a later edition of the same book. At that time both crypts were occupied by the proprietors of the Angel as stores, and the south crypt was full of faggots, some of which can be seen in Godfrey's engraving. Grose states that in 1770 it was so full that he was unable to take the exact measurements of it, and could only guess at them. A fresh engraving of the south crypt was made by Shury, after a drawing by J. R. Thompson, for Brayley's history in 1850, and that shows the crypt nearly empty, containing only a few planks, baskets and bottles. Of the north crypt there are also two engravings. One, small in proportion, appears in the book written by Laurence in 1842, after a drawing by C. C. Pyne, and shows that the crypt was then in an untidy state, and contained a good deal of rough woodwork. The drawing for this illustration is still in existence. The other is from Prosser's drawing just mentioned, and when the drawings were made by Hassell and Prosser both the crypts appear to have contained barrels of wine or beer.

For the last fifty years the south crypt has been used as a wine store, having been leased successively to Messrs. Taunton and the Friary Brewery, and it is still used by the last-named firm.

It is unfortunate that there is so little definite information respecting these crypts, but it is possible that the few facts which have been here set forth may lead to the discovery of more records, and thus our knowledge may be increased with respect to these most interesting undercrofts.

THE WIDENING OF PICCADILLY.

The London County Council, on the recommendation of the improvements committee, decided in July last upon an important widening of Piccadilly between the Circus and Sackville Street. The cost was stated at 209,000*l.*, but the improvement was only to be carried out on condition that the Westminster City Council provided 40,000*l.*, and that the syndicate which is dealing with the property on the north side of Piccadilly at this point should give up free of cost to the Council any interests which they might have in the land proposed to be added to the public way. Negotiations between the parties interested have since been going forward with satisfactory results. The syndicate has been negotiating for the purchase of the leasehold interests in a considerable portion of the property in the section of the improvement between Piccadilly Place and Air Street in order to erect a new building over the whole site. They entered into negotiations with the Council with a view of giving up any leasehold interests they might acquire in the strip of land needed for the widening of the thoroughfare, provided the Council would facilitate their proposals for dealing with the remainder of the property. As the syndicate proposed to ask the Commissioners of Woods and Forests, the freeholders of the property, to grant a new lease in respect of the property acquired by the syndicate, the improvements committee entered into negotiation with the commissioner (Mr. J. F. Horner), with the result that, in a letter, he has stated that, subject to his obtaining the requisite authority from the Treasury and the arrangement being embodied in a formal agreement satisfactory to the solicitor to his department, he would be prepared, as and when he could arrange to obtain vacant possession, to authorise the addition by the Council to Piccadilly, as part of the public thoroughfare, of the strip of Crown land on the north side of the road between Sackville Street and Piccadilly Circus necessary to enable the Council to widen that portion of Piccadilly to a total width of 80 feet, in consideration of the payment by the Council to the Commissioner of a total compensation of 200,000*l.* The offer was made and accepted on the understanding that the soil will, as in other cases, remain vested in the Crown, which is to be at liberty to form and maintain cellars and vaults under the new footway up to the outside edge of the kerb.

The Westminster City Council has now agreed to make the necessary contribution; and the syndicate has, in a letter, undertaken to give up free of cost any interest in the strip of land to be added to the public way, and an agreement with the Crown embodying the terms arranged has been executed and exchanged. The Council has now further determined to arrange for the Westminster City Council to put in force the powers of Michael Angelo Taylor's Act, with a view to the compulsory acquisition of certain interests in some of the property in the section of the improvement between Piccadilly Place and Air Street. An agreement has been prepared between the Council and the syndicate which has acquired most of the interests in the Air Street section; and the syndicate now requires that the Westminster Council shall serve notice as soon as possible in order to secure the early acquisition of the remaining property and the carrying-out of the improvement. In accordance with the proposed agreement between the Council and the syndicate, the latter undertakes to surrender free of cost its interest in the land needed for the improvement, and the Council has determined to accede to the request of the syndicate. The Westminster Council has agreed to put in force its statutory compulsory powers on behalf of the Council, and the syndicate will deposit with the Council the sum of 70,000*l.* to cover the estimated cost of the acquisition. All parties being agreed, the improvement will now soon be taken in hand.

THE SILVERWORK OF BURMA.

The Government of Burma has published at Rangoon a monograph, in English and Burmese, by Mr. H. L. Tilly, on Burmese silverwork The Burmese craftsman in silver laboured under some disadvantages; he was never called on to produce praying-wheels, censers and other religious objects as in most Buddhist countries, while the sumptuary laws of the Burmese kings prohibited, until about fifty years ago, the use of gold or silver vessels to all but those of royal blood. On the other hand, the patronage of the king and court was considerable, and gold plate, silver bowls, betel-boxes and drinking cups were produced in quantities for the personal use of members of the royal family and as presents. There are no longer any restrictions of this nature, but the people are simple in their tastes, and what little silver ware there is in a town or village can always be borrowed for a festival. The Burmese silversmith has little variety, but on the bowl or betel-box his fancy depicts the immortal stories of the past. There are ten of these principal legends, and to each a character is assigned by tradition, with a precise costume and particular ornaments. The very attitudes are in many instances prescribed, so that the many demons, ogres and guardian angels which appear in the course of the story to help or thwart the hero can at once be recognised by attitude or emblem. In former times the silversmith used the best silver from the mines mixed with ½ per cent. of copper and ½ per cent. of lead; but now English bar silver is used in the large towns, while in the country rupees are still melted down, especially for small work. Mr. Tilly describes in detail the methods of the Burmese silversmith and the tools he employs. The profits of the craft are rarely large. The leading artists are devoted to their art, and are quite content if they get enough to live on, provided they keep their position at the head of the craft. Many of them are experts in niello work, though they are not fond of working over a hot furnace and in sulphurous fumes. The Burmese silversmith has been greatly influenced by work from other countries. The Burmese Government transported whole families of artisans to Burma after the successful invasion of Siam in 1760, and the Burmese silverwork improved greatly in consequence. Between 1870 and 1885 it deteriorated on account of the European demand for richly embossed work, in which all the leading principles of design were forgotten in a confused jumble of inferior imitations of Italian carving.

NOTES AND COMMENTS.

The candidates who were examined by the Society of Ordained Surveyors in Edinburgh do not appear to be better informed than those tested by other societies. In the preliminary examination held in April 1903 seven candidates came up for examination in all subjects. Of these two passed, one failed in one subject, three failed in two subjects, and one failed in all. A candidate who was to be examined in one subject, having obtained exemption for the others by leaving certificates, passed. Another, who was prepared for two subjects, passed in one and failed in the other. Three candidates sought re-examination in two subjects. Of these one passed in both and two failed in both. One candidate came up for re-examination in one subject and passed. In the preliminary examination held in October 1903 there were three candidates. One passed in all subjects, one failed in one subject, and one failed in all subjects. One came up for re-examination in all subjects and failed in one of them. Two candidates in two subjects were successful. One candidate came up for re-examination in one subject and failed. In the final examination held in April 1903 there were eight candidates, and of these four passed. One candidate came forward for re-examination and failed. In the final examination held in October 1903 seven candidates presented themselves, and of these four passed. Three candidates appeared for re-examination and two passed. The committee of the Society appointed to compile modes of measurement for the minor trades has prepared draft modes, which have been submitted to the respective associations of tradesmen for suggestions, where such associations exist. The committee expects to be able to submit the completed draft modes to the Society at an early date, when they will at once be placed in the hands of members with a view to their revision and adoption.

The amount of money expended yearly in endeavours to convert private Bills into Acts of Parliament is enormous. Many undertakings have little chance of becoming profitable owing to the expenses unavoidably incurred in those preliminary encounters. Railway and other companies are only endeavouring to carry out speculations of their own, which, although leading to the advantage of the public, are primarily inspired by a desire for profit. When, however, corporations and other local authorities introduce private Bills there is supposed to be no other motive than the public benefit. Yet Parliamentary procedure becomes a burden to the ratepayers which cannot in all cases be supported. It is easy to understand that the officers of the Houses of Lords and Commons are eager to show some profit from their labours, and the fees prescribed in Standing Orders are therefore carefully looked after. But when it is known that there is a surplus of 45,000*l.* it seems as if the purpose of Parliament is rather ignored. It would not be difficult to extend the powers of the Local Government Board in order that many applications for authority to carry out works of water supply, lighting and other public improvements could be settled by means of private inquiries, as is done on a very limited scale at present But as long as it is necessary to promote special Acts arrangements should be made by which there would be some ratio between the amount to be expended and the costs of obtaining powers authorising the outlay. A revision of the scale of fees is consequently desirable, and ought at once to be attempted.

The thoroughness with which the Germans provide for technical education is suggested by the last report of the British consul at Stuttgart on mining and metallurgy. The Berlin Mining High School has, in addition to two directors, no less than fourteen professors and ten extraordinary professors, besides lecturers and other officials. The library contains 65,000 volumes, and about 2,200 maps, drawings and plans. The annual increase amounts to about 800 volumes, and 150 to 180 maps, drawings and plans The mineral collections are fourfold: the two principal collections, the collection or demonstration purposes and the collection for practical work. The collection for demonstration purposes contains about 7,000 minerals. The fourth mineral collection with crystals and crystal models is kept in a special room, to which the students have access at all times for purposes of study. The geological collections contain about fourteen divisions, and are most complete. One of the divisions alone fills no less than twelve rooms in the first storey of the principal building. The collections for mining engineering, ore-dressing and salt works contain more than 1,000 different objects, including models, instruments, tools, machines, appliances, materials, a number of mining antiquities and various local collections of raw and finished products. The Clausthal Mining Academy is being rebuilt at a cost of about 35,000*l.* The library contains 30,000 volumes. There are eight professors, five lecturers and six assistants. The Academy is situated in the midst of a great mining district, for within an hour's walk are the Hartz mountains. The Freiburg Mining School has sixteen professors and ten extraordinary professors. It attracts students from many parts of Europe and from America. The fees are moderate. Thus at Freiburg the highest fee per year for practical work in any class is 1*l.* 10*s.*, and the lectures are 6*s.* a year for each of one hour per week. The grand totals of the mining and metallurgical industries for 1901 from latest returns are:—Mining industry, 68,400,000*l.*; metallurgical industry, 35,441,000*l.*

It is remarkable that the money for the restoration of the parish church at Portsmouth is only slowly acquired. To realise the plans of Mr. T. G. Jackson, R.A., a sum of 6,000*l.* is necessary, but all that has been paid or promised amounts to 2,400*l.* The committee therefore is unable to undertake all the work shown on the plans. The tower will have to be left for the present without repairs. Portsmouth cannot be called a poor town, and a sum of 6,000*l.* is not too great a burden to be assumed by the inhabitants. One of the causes which prevent people from contributing is the belief that the authorities of Winchester College will sooner or later assume entire responsibility. They will, however, carry out all the work in the chancel, but their liability does not extend further.

ILLUSTRATIONS.

WOBURN COTTAGE HOSPITAL.—FRONT VIEW.

CAVERSHAM PARK, READING.—DRAWING-ROOM.

OAKLY PARK, BROMFIELD, SALOP.—HALL AND STAIRCASE.

THE ALBANY, PICCADILLY.—COURTYARD—ROPE-WALK.

The title of Duke of York and Albany might at one time be presumed to be unenduring. The brother of George I., on whom the distinction was bestowed, died without issue, and that also was the fate of the brother of George II., who received the title, and also of the brother of George IV. Of the last named, who ruled at the Horse Guards during the Continental War, we have two memorials, the York Column and the Albany in Piccadilly. The building, consisting of suites of chambers, was planned for the accommodation of bachelors who wished to be independent and were able to pay a high rent for rooms in so important a thoroughfare as Piccadilly. In the speculation several men of rank took part; among others was the Duke of York, and at one time he was the principal proprietor. Undoubtedly the Albany realised a want of the period. The chambers had not the professional character of those in the Temple, and were consequently well adapted for persons desirous of being considered as independent gentlemen. The Albany therefore became a favourite residence for young politicians; and the "luxurious cloister, whose inviolable tranquillity affords so agreeable a relief from the roar and flood of Piccadilly traffic," was for fifteen years the place of all others which Macaulay thought the most suitable for a man of letters and a prominent member of Parliament The majority of the residents at the present time are of the same opinion, but there are many people who believe it would be possible to erect chambers better adapted to meet the requirements of our day. Speculators therefore look with longing on the site, and who can say whether eventually the Albany will not have to succumb to the fate by which so many attractive and interesting parts of London have been transformed? In the planning of the premises Sir William Chambers took a practical part. The entrance is assumed to be from his design, but many parts appear to have been carried out by others in his spirit.

BUILDING STONES, NATURAL AND ARTIFICIAL.*

I APPROACH this subject not as a scientific but as a business man, who has by special circumstances been compelled to study the subject from the purely practical point of view. Naturally, even from that side of the subject one is driven to consider some of the scientific phases of it; and in the discussion which may follow the reading of this paper, if any chemical or other question arises which I cannot satisfactorily answer, I have asked some scientific friends to be present who will be able to do so.

When I found myself, so to say, "landed" in the endeavour to imitate as near as possible the conditions found in nature in the formation of stone, the following questions naturally presented themselves to me, namely, the origin of the principal rocks, their distribution, and their qualities for building purposes. Then, of course, the known departure from a state of nature and the creation of our present artificial surroundings necessitated my going still further, and finding out, *inter alia*, what our modern atmospheres consist of; the efforts that have been made to counteract or prevent the deleterious effect of such atmospheres; also, for the same reason and purpose, the attempts which have been made to produce an artificial substitute for natural stone This again led to an examination of concretes, and the difference between them and a true artificial stone. I now proceed to take up these points one by one.

As it would be absurd to attempt to describe in a short paper the supposed origin of all stones, I shall touch only on that of the most commonly known, namely, granites, marbles, limestones and sandstones.

Granites, according to the geologist Hutton's actual observation, have resulted from a state of igneous fusion of from 55 to 80 per cent. of silica with felspar and mica, in the presence of vapour of water, and under a high degree of pressure. Mr. Sorby, and more recently Dr. Firkal, found on microscopic examination that the quartz contains minute cells partially filled with water, which clearly infers the presence of steam under great pressure, and this pressure Mr. Sorby calculates, from the extent to which the cavities are now filled with fluid, to have been caused, in the case of the granites on the Scotch Highlands, by 26,000 feet of superincumbent rocks more than those of Cornwall. Limestones are for the most part rocks formed in deep waters by marine animals, which have assimilated the calcareous matter dissolved in the waters of the ocean by the aid of the carbonic acid also found therein, and converted the former into bones and habitations in the form of shells. These organic deposits have in some cases been afterwards covered up by several other deposits, such as clay, sand and gravel.

Amongst the limestones there are two which should be specially mentioned, namely, Portland and magnesian limestone or dolomite. The former has a preponderating amount of carbonate of lime, and the dolomite almost equal proportions of carbonate of lime and carbonate of magnesia.

Marbles are fine crystalline limestones, capable of receiving a polish.

Sandstones are composed chiefly of silica grains of variable size, bound together by some cementing material, such as carbonate of lime or oxide of iron, or by great pressure in the presence of high terrestrial temperature. Sometimes either mica or carbonate of lime in quantity, or felspar, is found added, and gives us the composite sandstones.

The distribution of the stones which I have here specially mentioned is not uniform over the earth's surface Some localities have a great deal of good building stone, but many others have little, and some none. But there is scarcely a place where there are not deposits of silica, both on land and in water.

In stone for building purposes there are very many qualities necessary to be considered, amongst which are—

First.—Strength, compressive and tensile.

Secondly.—Absorption of moisture.

Thirdly.—Hardness, or capability of being cut and otherwise worked.

Fourthly.—Structure, which may be compact and in even or uneven layers.

Fifthly.—Fracture, upon being struck with a hammer, for it may be either straight or conchoidal.

Sixthly.—Colour.

Seventhly.—Chemical composition or resistance to acid-laden atmospheres.

The questions of strength, absorption, hardness, structure, fracture and colour are very easily settled, and, with regard even to chemical composition, it may be taken as a general rule that the majority of limestones and sandstones will stand well in country parts; but in towns, where what I call superabundance of civilisation has accumulated, there these artificial conditions create artificial atmospheres, and few natural stones last long.

Reid, a great authority on the subject of natural and artificial stones and concrete, said in 1879:—

> In England and Scotland, in widely separated districts, and subject to a variety of climates, is exhibited the instability of the most carefully selected stones. At Exeter in the west, Norwich and Ely in the east, Cheshire in the north-west and York and Chester in the north, are to be found cathedral buildings, from a study of which it will be seen that even the most favoured district failed to supply what may be regarded as a moderately durable building stone. . . . The magnesian limestone—a hard crystalline everlasting-looking stone—of which the Houses of Parliament are constructed and which was selected by a commission of scientific experts, gave practical evidence of premature decay to the same generation that witnessed the erection of the pile.

And now we have, from the annual report of the chief officer of the Public Control Department of the London County Council, issued in August 1901, the following confirmatory statements:—

> Few building stones will stand the London smoke for any length of time, and the ordinary limestones, which are mostly used for building purposes, are found to decay very rapidly. Complaint has been made from time to time of the decay of Lambeth Palace and Westminster Abbey. . . . In order to ascertain whether this could be attributed to hydrochloric acid fumes, I had analyses made of portions of the decayed stone. The result showed that only a very small percentage of hydrochloric acid or its compounds was present; certainly not more than the normal percentage found in similar stone in other buildings in towns. In addition to this, I caused an examination to be made of about a hundred old stone buildings in various parts of London. It was found that nearly all these buildings also showed signs of decay almost as serious as those at Westminster and Lambeth. Having regard to these facts, it is reasonable to infer that the decay of these buildings cannot be specially attributed to fumes from the potteries.

Rivington, on "Building Construction," Hall, on "Building and Ornamental Stones," and other authorities entirely concur, and should be consulted

The reason of the decay of natural building stone is given in Dobson's "Rudiments of Masonry and Stone Cutting," based upon the report of the parliamentary committee on the Houses of Parliament, as follows:—

> Under normal conditions the changes produced on stone must be ascribed to the action of the oxygen, carbonic acid, nitric acid and water in the atmosphere. In towns, however, more especially where there is a large consumption of coal, other constituents of a far more destructive character—several acids of sulphur, and occasionally hydrochloric acid—exert an almost irresistible disintegrating influence.

And the subjoined analyses, also given by Dobson, and likewise based on the aforesaid parliamentary report, plainly justifies the reason.

It will be seen from the table that the generally used stones are either principally composed of carbonates, or that the indestructible silica is cemented together by carbonates. Most sandstones are however very durable, but expensive.

The question which modern builders have had to face is, therefore, one turning more on the chemical composition of stones than on any other point; and as reliable stone for town buildings has become more and more scarce and expensive, attention has for over half a century been turned to the study of the chemical composition of natural stone and the manufacture of a good artificial substitute. It also being evident, from centuries of observation, that silicate of lime had proved the best of all known cementing substances, special attempts have been, from 1832 till now, made to manufacture a silicate of limestone.

Typical Stones.	Carbonate of Lime.	Carbonate of Magnesia.	Oxide of Iron and Alumina.	Silica.	Water.	Bitumen.
Limestones—						
Barnack	93·4	3·8	1·3	—	1·5	trace
Chilmark	79·0	3·7	2·0	10·4	4·2	trace
Ham Hill	79·3	5·2	8·3	—	2·5	trace
Ancaster	93·59	2·90	0·80	2·0	2·71	trace
Bath Box	94·52	2·50	1·20	—	1·78	trace
Portland	95·17	1·20	0·50	—	1·94	trace
Ketton	92·17	4·10	0·90	—	2·85	trace
Dolomites—						
Mansfield Woodhouse	51·65	42·60	—	3·70	2·5	—
Bolsover Moor	51·1	40·2	1·8	3·6	3·3	trace
Roach Abbey	57·5	39·4	0·7	0·8	1·6	—
Huddlestone	54·19	41·37	0·30	2·53	1·61	—
Park Moor	55·7	41·6	0·4	—	2·3	—
Sandstones—						
White Mansfield	26·50	17·98	1·32	51·40	2·8	—
Craigleith	1·1	—	0·6	98·3	—	—
Darley Dale	0·36	—	1·30	94·40	1·94	—
Heddon	0·8	—	2·3	95·1	1·8	—
Kenton	2·0	—	4·4	93·1	0·5	—

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* A paper by Mr. L. P. Ford, read at the meeting of the Society of Arts on March 16.

Dobson, writing on the subject, says:—

> The ancients, in the preparation of the mortar they used, seemed early to have discovered the means of counteracting the destructive action of the atmosphere, and, after 2,000 years, Roman mortar appears to have undergone little or no change. Silicate of lime seems to have secured to it its great durability. . . . Silicate of lime has long been adopted to resist the influence of the atmosphere, and also the action of the sea water.

And Reid writes:—

> From what has been said it must be apparent to all engaged in building operations that in the future more attention must be paid to the fabrication of artificial stone, on whose durability perfect confidence can be placed.

The inquiries and experiments made have, I may here remark in passing, been not only in the direction of artificial stone, but also in that of washes for natural stone. Very few of these latter are, however, very effective and durable or cheap. The principal one is silicate of soda, and lately Professor Church's from six to twelve applications of barium hydrate—first in the form of spray and then, after a few days, with a brush. This remedy appears effectual, but it must cost a great deal in labour and in scaffolding.

It not being, however, my intention to go deeply into this collateral subject, I will pass on to an account of the efforts made to provide good and cheap artificial stones.

Ranger's patents, dating as far back as 1832, mark the first step in the manufacture of artificial stone. His method was to mix sand or silicious material with caustic lime, slaking with hot water and ramming the plastic mass into mould boxes. Later, he used the aggregate hot, securing better combination by that means. There are, I understand, several large buildings now existing which were constructed with stone manufactured under Ranger's patents. His theory, and that of many who have followed him, was that the lime would combine chemically with the silica and form silicate of lime. Chemical authorities have, however, always been antagonistic to this view, and it is generally conceded now that caustic lime and sand merely mixed together with hot water, or even subjected to immersion in hot water for a considerable time, do not combine chemically.

The Frear artificial stone, used for a time in the United States, was a mixture of hydraulic lime and sand, together with a certain portion of gum shellac This latter ingredient was added for the purpose of hardening the block. Hydraulic pressure of 15 to 25 tons was applied to the wet mixture when it had been deposited in the moulds. In what manner the pressure was utilised, and what was the exact intensity per square foot, I have not been able to discover. The smaller blocks were ready for use in from three to four weeks. In this case the hydraulic lime would contain a certain percentage of durable silicates, which would doubtless give to the stone considerable strength. The addition of the gum shellac, which accelerated the induration in the first instance, was probably the cause of the deterioration which ensued afterwards; at any rate, the stone soon became decomposed, some authorities attributing it to the shellac and some surmising that imperfect lime was the cause. Reid, already quoted, is very dubious as to the value of gum shellac, used with any matrix. Two other American processes may here be mentioned—Forster's and Van Deburgh's. In both instances moist sand was used, but Forster used slaked and Van Deburgh unslaked lime as the matrix. The sand was employed moist, the inventors being under the impression that every particle of moist sand would become evenly coated with lime paste, and no void spaces left. As a matter of fact, lime does not mix well with sand; under such circumstances the moisture tends to make the lime "ball," and adhere in small lumps. To secure a perfect mixture, both sand and lime must be very dry. Van Deburgh further used steam to assist the slaking, and also agitated the mass for some time. Afterwards the blocks were subjected to percussive pressure. Van Deburgh describes also various other methods of making stone. He mentions the use, as a matrix, of an alkaline silicate, and also proposes keeping the mixture in vacuo during the formative period to prevent the creation of carbonate of lime by combination between the carbonic acid of the air and the caustic lime, which action (he supposed) would interfere with the production of silicate of lime. Ordinary "water glass," silicate of soda or potash mixed with a suitable quantity of lime should, under suitable conditions, form a silicate of lime, the soda or potash being rejected The difficulty has always been to get rid of the rejected alkali, because so long as it remains in the stone, moisture will be attracted and induration retarded—sixty or seventy days are required for the induration of stones made with alkaline silicates, and unless the blocks have been carefully and frequently washed with clean water during that period, they will still effloresce whenever they come in contact with moisture. It may be concluded that the difficulties and expense attending the manipulation of such mixtures were too great, as apparently none of those alternative processes were ever carried out on a practical scale.

A similar process was that of M. Sorel, a French chemist. The matrix in this case was calcined magnesian limestone, which was used in a manner substantially similar to that which Ranger adopted with ordinary lime. There is, however, great difficulty in calcining this class of stone, because a much higher temperature is required (1,700 degs Fahr.) to drive off the carbonic acid of the carbonate of lime (which usually forms from 15 to 65 per cent. of the bulk), than is necessary in the case of the carbonate of magnesia (700 degs. Fahr.). Consequently, if the magnesia is properly calcined, the carbonate of lime has to remain unaltered, and forms an inert proportion of the whole and a source of unreliability in the ultimate product. This difficulty alone would probably account for the permanent want of success which attended M. Sorel's efforts. Apart from this, however, it has been discovered that compounds of magnesium are not always to be relied on to withstand the action of either foul air or moist atmospheres or immersion in sea-waters. All these inventors relied, to a great extent in their practical operations, on the theory that silicate of lime or magnesia could be formed by merely mixing the materials together and treating them in the various ways described. The failure of their products discredited this theory for a time, and a number of so-called chemical (as contrasted with the above rather mechanical) processes were subsequently developed and attained a fair measure of success.

We now come to one of the ablest investigators of the subject, Frederick Ransome, whose earliest patent is dated 1855, and his latest 1875. Ransome's stone and slight modifications of it have been made until quite recently, and there are buildings in London and the country which testify to its enduring qualities. Ransome's method was to create a silicate of lime in a mass of sand or pulverised chalk, by first mixing the material with a soluble silicate, usually silicate of potash or soda, and then immersing the mass repeatedly in chloride of calcium or any other solution capable of decomposing the silicate. By this process silicate of lime is formed and chloride of potassium or sodium is thrown off, giving rise for some time to an objectionable efflorescence, which must be washed off and will cease when the chemical interaction ends. Various improvements in this process have been patented, chiefly with the object of saving labour and securing better saturation of the blocks with the chloride solution. The blocks have been placed under vacuum and the solution introduced, either with or without pressure, and sometimes hot. Various forms of chambers have been devised in which to manipulate the mass economically, but apparently, although this product is excellent, these processes involved so much care in the preparation of materials that they failed commercially.

Sir H. Bessemer's and E. L. Ransome's patents in the United States of America describe the use of a vacuum chamber to assist in drawing the cementing solution into the mass. And further modifications of the system known as silicating may be illustrated by a reference to another United States patent taken out by the same Mr Ransome. In this case an attempt is made to avoid the expense involved in the direct use of the silicate of soda or potash as matrices, and also to improve the uniformity of the product. Silica, lime, chalk, hydraulic cement and other lime substances, in a finely divided state, are saturated with a solution of caustic soda or potash, or of carbonate of soda or potash; the object being to create the silicates in the mass instead of having to introduce them afterwards.

Rudolph Zuber, in his German patent, describes an apparatus designed to extract the air from the component parts of the stone before mixing. He points out the difficulty of otherwise obtaining an absolutely solid mixture. Water, he says, contains a certain amount of air, and to drive this off he boiled it The presence of air in artificial stone before consolidation is most detrimental to its strength and durability. "Hair cracks" are formed and moisture laden with elements of corrosion is introduced into the body of the stone. In winter the moisture freezes and the block is split into fragments. These hair cracks also reduce the mechanical strength by lessening the cohesion of the mass.

Up to about 1885 little advantage seems to have been taken of the property of caustic lime to expand considerably when slaked. Fat limes expand from two to three and a half times in bulk, and hydraulic limes from one to two times. Dr. Zernikow, in his German patent of 1885, describes the use of this property of lime, and he is really the pioneer of all the modern methods of making artificial stone. The lime and sand were mixed together dry and rammed into a strong mould box. They were then subjected to the action of steam or hot water for a considerable period. The first result of the contact with moisture was of course the slaking of the lime, and its efforts to expand being checked by the mould, they resulted in considerable consolidation of the mass. After the slaking was completed, the steam or hot water, it was claimed, slowly created silicate of lime in the block. A pressure of steam of only about three atmospheres or 45 lbs per square inch was used. The time occupied for the complete process was from four to seven days.

Owen in 1894 and 1896 describes modifications of this procedure. He specifies hydraulic lime, evidently because the fat limes were found unsuitable for a process which involves continuous immersion in water. Distilled water is also used to avoid the introduction of any air into the moulds during the slaking period. The pressure (60 lbs. per square inch) is kept up by means of a pump instead of by steam (as in Zernikow's patent) and through a coil. In the earlier specification a claim is made that the hydraulic pressure external to the mould box will counterbalance the expansive force of the lime within. Since, however, the moulds necessarily permit the water to enter for the purpose of slaking the lime, it is difficult to see how this can be the case. This process occupied about from 60 to 70 hours. Hydraulic lime, if of good quality, only expands to about twice its bulk when slaked. Consequently the consolidation of the block will be less than in a case where a fat lime is used.

It was found that large blocks of artificial stone are liable to crack if dried and cooled too suddenly after manufacture by the process just described. Drying and cooling devices were, therefore, protected by Bush in 1895, and by Owen in the United States in 1897. In another English specification in 1896 Professor Thompson describes a process in which steam only is used as an amalgamating agent. He claims the formation of silicate of lime by simply subjecting the mixture of sand and caustic lime to the action of steam at a pressure of three to five atmospheres, but chemical authorities have decided that silicate of lime is not formed under such circumstances, and the extended experiments made by me have demonstrated that steam alone will not properly hydrate lime, and that the product is weak and unreliable Further, to obtain the maximum slaking effect, it is essential that the lime be hydrated as quickly as possible. The water and plastic processes do not secure this perfectly, and the steam process occupies hours. I find that if the slaking takes place slowly, there is a tendency to solidification on the surface of the blocks before the centres have become hydrated.

Christian Heinzerling, in the German patent of 1897, improves on the methods of Zernikow and Owen. The dry mixture of sand and lime is placed in a mould, and then the air is exhausted previous to the operation of slaking He also specifies the use of carbonic acid gas as an auxiliary amalgamating agent—presumably to create carbonate of lime as a matrix This gas is introduced after the slaking has been completed, and is immediately preceded by the creation of a second vacuum around the mass. If the block is as solid as it should be there will be little use in attempting to exhaust air from it, and the carbonic acid gas will only be able to attack the skin

Here ends my review of previous efforts to make large blocks of stone, but before I pass to my own work in that direction I must add something about artificial stone bricks, otherwise called sand-lime bricks, for when the Germans failed to make large stones they gradually came down to producing these bricks, which have now become a most extensive industry all over the Continent, whence it is spreading to America and other places, and it is being inquired about even here. The English are generally slow to take up new things, but when we do, I think we soon outstrip the others. At any rate, in this case I, as an Englishman, am pleased to say that not only have I mastered the long unsolved stone problem, but also that my son has produced a far finer sand-lime or stone-brick than any I have yet seen. How this came about constitutes, as some one writes, the "romance of the silicate of limestone industry."

In 1894 I lent a sum of money on the silica mine in Wales where my parent works now are, and in 1897 I was asked to take the mine over in settlement of my mortgage. I did so. Then, believing I had got a very valuable material, I looked about for some use for it, tried, through experts, making Dinas firebricks, and failed; and then, hearing of Owen, who was making a silicate of limestone at Woking, I sent an engineer and my son to see into it, found it was just the thing, as we thought, that would utilise my silica and lime quarries, and at once started experimentally. Succeeding very well on a small scale, I consented to my engineer erecting a large factory, but when it was up not one single stone could be produced of any size without cracks all over it. Being disgusted I dismissed the engineer, went to Owen's, and found he had shut up from the same cause I also travelled on the Continent, and found there too the same results. I then saw that if I went on and overcame the difficulties I should have something really needed all the world over, and I thought a couple of thousand pounds more would easily cover the cost. But instead of spending only that amount I went on and on for nearly four years, and spent altogether about 34,000*l.* To do this I kept on realising, always at a loss, until I had to resort to mortgaging, and it was only when I was at the very end of my resources and did not know how to continue that I discovered the solution of the problem. After fully satisfying myself that I was right I opened an exhibition here in London last year, and with some difficulty formed a syndicate, by the aid of which I have taken out patents in the principal countries of the world and followed up my discovery with great interest, for its reception all over the world has been most pleasing, and I trust now that I shall be able to depart this life some day leaving behind me an example of what can be done if one has a firm reliance on a loving and wise Creator, and does not mind enduring loss and hard work for the sake of serving one's fellow creatures.

The great value of the industry lies in the following points:—

1. The stone itself is a production of a true silicate of limestone—the old Roman mortar which has stood so many centuries.

2. It is not a concrete made with Portland cement, and is absolutely homogeneous throughout, and can therefore be cut up and used like—nay, better than—natural stone, which has layers, vents, flaws, &c.

3. It is better than natural stone, because few natural building stones now used will resist the acids in the atmosphere, and this stone does.

4. Silica sand exists on over three-fourths of the earth's surface, and is, therefore, obtainable near building sites, and thus an immense saving will ensue in carriage alone.

5. There are immense tracts of land where no natural building stone is obtainable, and therefore where this is the case the chance of obtaining stone by my process is a fact of immense importance.

6. In addition the stone may be produced at about 3*d.* per cubic foot, a price at which natural stone cannot be quarried.

7. The carving qualities of the stone are splendid.

8. The crushing strength is three times greater than Portland stone, or less if desired

The undoubted value of the stone is already being proved by the hearty testimony of architects and builders throughout this country and abroad, and by the many orders which are coming in.

As is usual, and I may say essential, for great success, my discovery is of the simplest possible, so that any ordinary mechanic, with a fair amount of brains, can learn and carry out the process, which is shortly this:—

We use nothing else but ordinary silica sand (as most sands are) and common fat lime. The purer the sand the purer and better the stone will be, and ordinarily we prefer not to have more than about 3 per cent. of iron and 3 per cent. of alumina and no other foreign matter But I may say here that stone can be made by us out of almost any sand and quarry refuse, but it would not always be a pure silicate of limestone. In some places that would not matter, but in large cities the purer the stone the longer it will endure

The sand we grind and grade so as to get several grades, and the lime is reduced to a very fine powder. The two ingredients, in the proportion of about 92 per cent. of sand to 8 per cent. of lime, are mixed dry and then run into a cylindrical mould made in a special way, and this is the key to the process. The mould is closed and placed in a boiler, from which the air is then exhausted, and into which water is immediately afterwards allowed to enter and cover the mould. The temperature is gradually raised to about 350 degrees Fahr. and kept up for eight hours, when the process is complete. The boiler is allowed to cool, then opened and the mould removed. When cool enough the mould is relieved of its contents, which can at once be used. I call the process absurdly simple; and yet it has cost, if we reckon the thousands each attempting inventor has spent since 1832 here and abroad, a couple of hundred thousand pounds, I suppose. The process is a close imitation of nature's methods, for in the bowels of the earth we find silica sand, alkalies and a high temperature, with an enormous superincumbent pressure.

In conclusion, I will repeat a favourite assertion of mine already made, namely, that when civilisation creates artificial conditions, simple natural things have to be replaced by artificial products.

THE ORIGIN OF THE GARGOYLE.

THE origin of the gargoyles and the grimacing figures which one finds in such large numbers on the French cathedrals was an orifice in the stone coping of the cathedral through which the rain-water was carried. Then some inventive genius added a lip to carry the water out beyond the walls, and the name of gargoyle was bestowed upon the orifice. It is interesting to note that the name was derived from the Latin word from which the word gargle came, gurgulio. The lipped orifice came into use about 1220 A.D., and thenceforth until the Renaissance the sculptors employed on the cathedrals in France turned their imaginations loose, and on the gargoyles their fancy ran riot. In those days there was a belief that unseen imps and monsters, witches and wehrwolves, abounded in the air, and so those who worked upon the cathedrals sought an opportunity to express this side of their religious belief. This the gargoyle afforded. They put into the midst of their beautiful stone angels and their flowering pinnacles grotesque figures of men and animals symbolising these hideous creatures.

The gargoyle was found to be effective from an architectural point of view, so in course of time it was applied to the cathedral with less regard for its value as a channel for water. Eventually it became purely an architectural feature, without any utilitarian object to serve. Its gutters were closed up, and the mouths of the grinning animals, birds and human figures no longer belched forth water. On some of the French cathedrals, dating back to the fourteenth century (says the *New York Tribune*), scores of these bizarre creations are to be found. It is said that in all France there are not to be found on the cathedrals two gargoyles which are alike The gargoyles stick out everywhere on the edifices—from the junctions of gables and arches, from cornices, and they ring the spires like the spikes around the crown of the statue of Liberty.

Perhaps the cathedral which has attracted the most attention because of its grotesque figures and gargoyles is that of Notre Dame in Paris. Apparently the inventive genius which conceived the idea of carving fantastic figures representing the unseen powers of the air here flowered most luxuriantly. Not only are there many gargoyles of hideous mien, but away up, leaning over the parapet which surrounds the towers, may be seen looking down into the plaza curious faces. A closer look shows them to be monsters of all kinds, that of Biscornette in many shapes, fabulous birds, demons, dragons; they are sitting or crouching down, or standing upright, leering, grinning, grimacing. Epiphanius Wilson, in his "Cathedrals of France," has said of them:—"These creatures symbolise the powers of evil, and the evil things that cannot enter into the Holy City which the church upon whose exterior they have alighted represents. By a strange piece of irony, the convention of 1793, as well as the Calvinists that preceded them as iconoclasts, left these monstrous figures standing, while they demolished and dragged from their niches the beautiful statues of kings, bishops and saints with which the old church was then adorned, both within and without. The imagination of painter and sculptor never revelled in the creation of more hideous and revolting shapes than are gathered on the roofs and towers of Notre Dame Among them, however, is represented an angel of God with his finger on his lips, imposing silence upon them, and silent they have been ever since they took the position they now occupy. As if to form the climax to the allegory, on the gable end of the nave a gigantic angel is blowing the trumpet of the last judgment."

There is a singular and interesting legend connected with the construction of the wonderful wrought ironwork on the western doors of Notre Dame. Mr. Wilson tells this legend as follows:—

"The popular mind in Mediæval times always made a mystery of transcendent skill or knowledge in those who were superior to others. Thus the mathematician was an astrologer, the chemist a wizard, and the smith or mason of extraordinary skill in league with an evil spirit, Biscornette, a two-horned fiend, such as is so frequently represented among the grotesque carvings of this church's exterior. Biscornette, it was alleged, in exchange for the soul of the workman, gave him power to excel his companions. But Biscornette could never forge the ironwork for the central door of the west end, through which the Holy Sacrament was carried in solemn procession He is for ever wandering about the exterior of the church, into which he may not enter; and this is intended to suggest that the refuge for the Christian workman is in God's house, wherein all is good. . . . It is not without meaning, profound and practical meaning, that Biscornette is represented by the Mediæval builders as perched on the outside of God's temple, which is guarded and safely kept by saints, apostles and martyrs."

THE HOUSING QUESTION IN LONDON.

IN a return which has just been presented to the London County Council by the Housing of the Working Classes committee particulars are given as to the present position of matters with regard to the more important works for the housing of the working classes now being carried out by the Council. In the period from April 1, 1903, to the present time the return shows that 4,893 persons have been provided for at a total cost of 243,578*l.* The most important of the schemes completed during the last few months have been the Durham Buildings, York Road, Battersea, costing 12,160*l.*: the Ottawa and Baffin's Buildings, Poplar, costing 15,900*l.*; and the Thackeray, Dickens and Coram Buildings, Herbrand Street, Russell Square, costing 27,559*l.* There are at present in hand six schemes for the clearance of insanitary areas, and in each case considerable progress has been made. The clearances are at Garden Row, St. Luke's, estimated to cost 144,850*l.*; Aylesbury Place, Clerkenwell, and Holborn, 189,800*l.*; Burford Court, Poplar, 13,300*l.*; Webber Row, Southwark, 152,950*l.*; Nightingale Street, Marylebone, 6,000*l.*; and Providence Place, Poplar, 17,100*l.* The total cost of the schemes will be 524,000*l.*, and, while 4,789 persons of the working classes will be displaced, provision will be made in the rehousing schemes for 5,705. The estimated cost of the works now in progress in connection with housing schemes is 517,000*l.*, and these will provide for 11,469 persons. The most important of them are for the erection of a second set of cottages estimated to cost 120,000*l.* upon the Totterdown Fields estate, Tooting, and for cottages in the White Hart Lane and Norbury estates. The buildings now in course of erection include large blocks at Wedmore Street, Holloway (32,600*l.*), Robey Street, Finsbury (20,500*l.*), Preston's Road, Poplar (36,000*l.*) and Leroy Street, Bermondsey (16,000*l.*). The works about to be commenced are estimated to cost 342,000*l.*, and to provide for 6,842 persons. They include buildings on the Caledonian Asylum site, Islington, to cost 65,000*l.*; the George Yard site, St. Luke's, 21,000*l*; the Brixton Hill site, 30,500*l.*; the Union Buildings area, 86,256*l.*; the Garden Row area, 39,670*l.*, and the Webber Row area, Southwark, 52,176*l.* The works which have been sanctioned by the Council and for which preliminary plans are in course of preparation are the following:—Creek Road, Deptford; London Street site (Rotherhithe tunnel rehousing); Old Oak Common estate (cottages); White Hart Lane estate, Wood Green (remainder); Totterdown Fields estate (remainder), and the Norbury estate (remainder). These works are estimated to cost 2,315,706*l.*, and to provide accommodation for 53,032. The cost of the work on the White Hart Lane estate alone is put down at 1,482,735*l*, and provision will be made for 33,778 persons.

Lord Portman, Lord Howard de Walden and the Marylebone Borough Council are alike engaged in an effort to provide adequate, healthy and decent accommodation for workmen at reasonable rents. Lord Portman has already erected an admirable block of industrial dwellings in Queen Street on his Marylebone estate, and is now completing a similar block in Nightingale Street, Lisson Grove, whilst Lord Howard de Walden is building houses for artisans in the district of St. John's Wood. The Marylebone Borough Council are erecting a block of workmen's dwellings, with all the latest improvements, in John Street, Edgware Road, the foundation-stone of which was recently laid by Princess Louise (Duchess of Fife). At their next meeting the Council will consider a scheme under Part II. of the Housing of the Working Classes Act for the acquisition and clearance, at an estimated cost of 23,000*l*, of the overcrowded and insanitary Devonshire Place (Lisson Grove) area. The Home Secretary has appointed an arbitrator to determine whether the Borough Council or London County Council should effect this improvement, but arbitration proceedings are deferred pending negotiations between these two bodies, with a view to an amicable and jointly satisfactory arrangement. According to Dr. A. Wynter Blyth, the local medical officer of health, the death-rate in Devonshire Place in the five years ended December 31, 1900, was 38 per 1,000 and in the three subsequent years 30·5 per 1,000. The tenement houses are "old, worn-out and defective," and nothing short of an entire clearance and rebuilding on a different plan will, in his opinion, meet necessary sanitary requirements. The housing committee of the Borough Council consider "the housing problem in Lisson Grove is distinctly urgent, and that no amount of tramways which are not yet constructed, however useful to those who are willing and able to live out of Central London, can relieve the pressure caused by a want of proper accommodation."

When inquiry was recently made in the metropolitan borough of St. Pancras by the medical officer of health as to the number of underground rooms illegally occupied as dwellings it was found that over four hundred tenements, affording accommodation for over one thousand persons, were occupied separately, in contravention of the law relating to underground rooms. As a result of a subsequent inspection of the district, the borough medical officer reported that there were 640 rooms in which the conditions were practically irremediable, and he suggested that these rooms should be dealt with consecutively and at intervals, "so as to avoid the serious effects of suddenly displacing a large population." The first set of notices, dealing with fifty houses, was served by the Borough Council in August last, and since that date another 225 notices have been served. It is understood that it is proposed to serve further notices at intervals, so that all the houses which are illegally occupied will be dealt with by the end of the summer of this year. The London County Council in December last decided to press the Borough Council to proceed more rapidly in the matter, and in a report upon the subject now express satisfaction that substantial progress is being made.

ASSESSMENT OF LAND VALUES.

In a letter to the *Times* Mr. W. Sturge, past president of the Surveyors' Institution, writes :—

As a surveyor of large experience in the valuation and sale of building land in and adjoining large towns, I beg to request some space in your columns to make some observations on the above Bill, which was read a second time in the House of Commons on Friday, March 11. The objects of the Bill, as stated by Mr. Trevelyan, who moved the second reading, are as follows, namely :—

1. To rate and assess building land at 3 per cent per annum on its capital market value for building, instead of on its rental value as agricultural or accommodation land under the provisions of the Parochial Assessment Act, as at present.

2. To rate and assess building sites and the buildings thereon separately.

3. To rate and assess sites of unoccupied houses, which are not now chargeable with rates so long as they remain vacant, and to charge rates on the sites thereof.

4. To compel landowners to bring land into the market for building in order to promote the more rapid sale for building purposes.

On the first point—namely, the rating and assessment of what is called the unearned increment ; that is to say, on the gradual increased value on account of the demand for houses near large towns. On this point I may observe that the increment is unearned in another sense, and cannot be earned until a large expenditure has been incurred in the construction of roads, footpaths and sewers. Building land may be divided into two classes. First, that which may be called ripe for building, or, in other words, which could be immediately let or sold for building purposes ; this, I may remark, becomes rateable as soon as buildings have been erected thereon and are occupied. The Bill does not, therefore, much affect this class of land. Secondly, land which has a prospective or future value for building, and which may be called unripe building land, but which would realise in the market an amount more or less beyond the agricultural or accommodation value. The assessment of unripe building land would be a matter of great difficulty, as it would have no certain basis but would be merely matter of opinion. There is no subject on which surveyors differ in opinion so much as on the prospective or future value of building land. This is proved by the great difference in the evidence given by surveyors whenever such building land is required for public purposes, and the effect would be much expensive litigation with an uncertain and unsatisfactory result.

To show the effect of the proposed practice I will assume that A is the owner of 20 acres of land near a large town, and which is at present occupied as accommodation land, either as pasture or market garden, at an average rent of 5*l.* per acre, and is at present rated at 4*l.* 10*s.* per acre. Assume that this land would realise in the market as unripe building land 400*l.* per acre, 3 per cent. on which would make its assessment value 12*l.* per acre; assuming the rates in large towns to be on an average 6*s.* 8*d* in the pound. The owner or occupier would pay at present 6*s.* 8*d.* in the pound on a rateable value of 4*l* 10*s*, equal to 1*l* 10*s.* per acre ; whilst under the proposed new system he would be rated at 12*l.* per acre, and the rates thereon would amount to 4*l.* per acre, making an increased rating of 2*l.* 10*s.* per acre, which on the 20 acres of land would amount to 50*l.*, and would reduce the income from 100*l.* to 50*l.* per annum, or by one-half ; and the annual income would be decreased by 2*l.* 10*s.* per acre, which at 30 years' purchase would amount to 75*l.* per acre. A's 20 acres of land would at once be reduced in market value from 8,000*l* to 6,500*l*, and he would at once lose by the transaction 1,500*l.*, or 18¾ per cent. of the capital value.

Now compare A's position with that of his next-door neighbour B, who occupies a house of equal value to A's house, but instead of holding 20 acres of land has his property invested in Consols. B is rated merely on the rental value of his house, whilst A pays in addition thereto 4*l* per acre, or 80*l* per annum, on his 20 acres of land. I say that the effect of the proposed Bill is to seriously aggravate the evil of the non-assessment of personal property, and that A would suffer grievous injustice thereby.

2 As to the separate rating of land and the buildings thereon, the object of this arrangement appears to be to carry out the proposal No. 3, namely, to charge rates on the sites of unoccupied houses. I am wholly at a loss to understand why lands so unoccupied should be charged with rates whilst the buildings thereon would be exempt. The effect would be to seriously reduce the value of house property.

4. To compel landowners to bring land into the market for building in order to promote the more rapid sale. One would suppose that land is withheld by its owners so as to retard the building of houses in the neighbourhood of large towns. Now I assert—and I feel sure that anyone acquainted with the subject will support me—that as soon as land is ripe for building landowners are always willing to bring it into the market ; and my experience is that the building of houses, and consequently the supply of land, often exceeds the demand, and that builders are obliged to defer building for a considerable period whilst the population increases sufficiently to cause a further demand.

Looking on the subject in all its bearings, I am of opinion that there is no satisfactory reason for the provisions of this Bill, and that it would inflict great injustice on the owners of land who would be affected by it.

ARCHÆOLOGICAL RESEARCH IN GREECE.

With the return of spring, writes the correspondent of the *Times* in Athens, the various scientific institutions here will renew the campaign of archæological research. The British School which possesses eight working members this year, will resume the excavations at Palæocastro, in Eastern Crete, which have already yielded such interesting results. The rich series of Mycenæan vases and terra-cottas discovered here have latterly been arranged in the Candia museum by Mr. R. M Dawkins. The excavations will be supervised, as last year, by Mr. R. C. Bosanquet, the director of the School, by Mr. Dawkins and by Mr. C. T. Currelly, who is now excavating with Professor Petrie in Egypt, while the architectural features will be studied by Mr. Heaton Comyn, A.R I.B A. The School will also undertake trial excavations in Laconia. The first site selected is that of the Temple of Artemis at Kary, on the borderland of Laconia and Arcadia, which was identified by Mr W. Loring. On the site stood a church, the ownership of which has been contested by the neighbouring Laconians and Arcadians. Recently the Arcadians, assuming possession, reconstructed the edifice, but the Laconians shortly afterwards levelled it to the ground. This opportune demolition will greatly facilitate the researches of the British School. Topographical work has been carried out in Laconia by Mr. M. N. Tod, the assistant director, who has also catalogued the inscriptions at Sparta, while the neighbourhood of Gytheion has been examined by Mr. E. M. Foster

An interesting event in the annals of the British School took place when the first turf of the foundations of the memorial library about to be erected in memory of the late Mr. F. C. Penrose, formerly director of the School, was cut by Lady Evans in presence of Mr. Elliot, the British Minister at Athens, Mr. and Mrs. Bosanquet, Sir John Evans and others. Congratulatory addresses were delivered on behalf of the sister foreign and Greek institutions by Professor Dörpfeld and M. Bikelas respectively.

Although the great excavations at Delphi undertaken by the French School have practically been completed, some time will still be occupied by the reconstruction of monuments, the identification of scattered fragments, &c., and other work. The municipality of Athens has offered to provide funds for the restoration of the treasury of the Athenians. Much care has been devoted to the preparation of the elaborate work "Les Fouilles de Delphes," which is now being issued. The French School will also be engaged in further excavations of a more complete and systematic character at Delos, for which funds have been supplied by the Duc de Loubat. The new series, which was begun last summer at the port of the island, has revealed interesting traces of commercial activity in Roman republican times. The excavation of the Temple of Apollo Ptôos, north-east of Thebes, will be continued. M. Homolle, who has been appointed director of National Museums at the Louvre, will be succeeded in the directorship of the French School by M. Maurice Holleau, Professor of Greek and Latin Antiquities at the University of Lyons.

Professor Dörpfeld, of the German Institute, will resume his researches in the island of Levkas, which he identifies with the Ithaca of Homer. M Goekup, who was formerly associated with Professor Dörpfeld in this work, has reverted to the belief that the Homeric island has preserved its name, and has consequently transferred his activity to the modern Thiaki, where the excavations will be superintended by Herr Vollgraf. Trial excavations at Megara will be carried out by members of the German Institute, and the researches at Pergamus will be continued in the autumn.

The American School, under the direction of Mr. T. W. Heermance, will continue its excavations at Corinth, where difficulties in connection with the expropriation of the landowners brought the work to a stop last year. The necessary steps have now been taken for the acquisition of the ground. The northern and apparently the western limits of the Agora have already been ascertained, and it is hoped before the end of this year's campaign to reach the south-western corner. The south side and the central area will then be examined. The topographical results should be the identification of some of the sanctuaries mentioned by Pausanias and the determination of the starting points of the roads to Sicyon and the Acrocorinthos.

The Greek Archæological Society contemplates an extensive programme. Especially important are the excavations at the Temple of Hera in Samos, which were begun in 1902 and will be continued under the superintendence of M. Kavvadias. A series of excavations will be carried out in the neighbourhood of the "Theseum" at Athens which may fix the boundaries of the Agora in this direction. The Society has undertaken repairs of the Erechtheum and of the Temple of Apollo at Phigaleia, and the restoration of the Lion of Chæroneia.

CORPORATION OFFICIALS AND PRIVATE WORK.

IN the report of the Northern Architectural Association the following letter, which was addressed to the town clerk of Newcastle-on-Tyne, is printed :—

"At a meeting on February 24, 1904, the Council of this Association resolved that the attention of the Newcastle City Council be drawn to the fact that the property surveyor is being entrusted with important architectural works, some of such a nature as to require special attention and a large amount of time.

"According to advertisements which appeared in the public Press, the property surveyor was appointed for the purpose of managing the various properties of the city.

"The number and importance of the city properties, we think, fully necessitates a chief and staff, employing the whole of their time to the carrying out of the business in connection therewith.

"Since an understanding was arrived at (between the representatives of the City Council and this Association) that the Council's officials should not carry out architectural works, this Association has not had much occasion (until recently) to feel that the spirit of this undertaking was not being adhered to.

"The members of this Association in making this protest wish to emphasise the undesirability of any public architectural work being carried out by the Corporation officials when there are duly qualified architects practising in the city who are ratepayers, and they respectfully suggest that in future the designing of all important buildings for the city should be entrusted (by competition or selection) to local architects, believing that this would be to the interest of the ratepayers and conducive to the best architectural results.

"We may mention that recently the Leicester Society of Architects have informed us that under similar circumstances the Leicester Town Council has adopted a custom to put all works costing more than 500*l.* into the hands of architects. This we consider a reasonable arrangement.

"We may mention that the Council of the Royal Institute of British Architects (to which this Association is allied) have recently passed a resolution that in their opinion it is extremely undesirable that large public works of an architectural character should be put into the hands of county, city or borough officials, and have appointed a large committee, including all the presidents of the allied societies, to go thoroughly into the question.

"In respectfully submitting this the Association does not desire that it should be a personal protest in any way against Mr. Holford or his professional abilities, and they would acknowledge the kindness and courtesy extended by him to any of its members who have business relations with him.

(Signed) "J. Walton Taylor, President.
"J. T. Cackett, Vice-President.
"Arthur B. Plummer, Hon. Secretary."

BUILDING BY-LAWS REFORM.

THE annual report of the Building By-Laws Reform Association has appeared. It says that early in the year the Council appointed a committee to consider the amendments needed to the existing Building By-Laws. That committee presented a report to the Council on July 30, 1903, and a minority report was submitted. After full debate the committee's report was accepted by the Council, and they appointed a by-laws committee to consider and report on the amendments needed in the existing building by-laws, especially as regards the following points :—

1. For the purpose of securing, with as little delay as may be, some relief from the more oppressive of the by-laws now in force in rural districts, the committee to approach the Local Government Board and endeavour to secure their publishing a new set of model by-laws for these districts, embodying amendments which the committee may suggest to the desired end. Further, to urge District Councils to amend existing by-laws accordingly.

2. Following on the above, to prepare a set of draft building by-laws laying down principles, and to provide that, unless the principle it enunciates is otherwise given effect to to the satisfaction of the local authority, it shall be considered to be given effect to if the requirements set out in a schedule to the by-laws are complied with.

3. As soon as practicable to deal with the by-laws of urban districts in like manner.

The by-laws committee are still engaged on the work so referred to them, and the Council propose to convene a special meeting of the Association as soon as the work is completed, in order that the members of the Association may express their opinion on the proposed reforms before publication.

The need for such an organisation as this Association has been shown by frequent inquiries for help which have been made to the Council, and they have given what assistance they could on each occasion. At an early date the Council came to the conclusion that it was impossible to advise district councils and others desirous of amending by-laws until principles of amendment had been determined upon as those to be recommended. The Council regret that it was consequently necessary to inform numerous applicants for assistance that, pending the report of the by-laws committee, the Council were unable to advise as to amendments.

In two cases during the year members of the Association, in consultation with the Council and officers, have been able successfully to prevent undue interference with private rights, where it was clear that the public health and safety would be in no way affected. The one was a case of a local authority endeavouring to secure the removal of a billiard-room attached to a house standing in its own grounds in the country because the billiard-room was not brick built. In the other case a District Council was seeking to impose building by-laws upon a rural parish. The result of the opposition of the member in this case was that the Local Government Board introduced special exemptions in favour of the parish from which the protest came.

As the Association becomes better known it will doubtless receive more support from the public, and the Council feel sure that before long its efforts will result in some effectual work being done towards improving the conditions under which building operations have to be carried on.

From the first the Association has recognised the necessity for building regulations in places where the interests of public health and safety demand them, but in many cases the existing by-laws and regulations have gone beyond this need. It is not too much to say that in some cases the interference with individual liberty has become intolerable, and the Local Government Board seems itself to have realised this by issuing modified model by-laws for rural districts.

It is also important to point out that oppressive by-laws have had, and are having, an injurious influence upon the well-being of the labouring classes, inasmuch as unnecessary restrictions in building operations result in the retention of old cottages where, but for these restrictions, new ones would be built.

The work the Association can accomplish must largely depend upon the support which it receives, and the Council appeal to members to make the claims of the Association known among their friends in order that the number of members may be materially increased. By this means the objects of the Association will be most speedily achieved.

THE DARLINGTON HOTEL DISASTER.

A CORRESPONDENT of the *Westminster Gazette* has given the following summary of the evidence about the collapse of the Darlington Hotel, New York :—

At the inquest there was, on some matters, the conflict of testimony which is to be expected when several persons are trying each to shelter himself and cast blame upon another. On the whole, however, the evidence makes it easy to piece together a connected and intelligible narrative. The Darlington Hotel was being put up by the Allison Realty Company, which was incorporated on March 5, 1903. The secretary of the company, Eugene C. Allison, was by profession not a builder but a lawyer. His brother, who was supposed to be the superintendent of construction and who was one of the victims of the accident, was a sailor. The Darlington was the first erection undertaken by the company. Mr Eugene Allison took to Messrs. Neville & Bagge, architects, a ground plan furnished by a broker, and asked them on this basis to draw plans for a twelve-storey apartment house of the steel skeleton type, to cost approximately 350,000 dols. The architects were to receive 1,000 dols for complete detailed plans, and 200 dols. for extra necessary changes. No supervision was included in the contract. The plans thus drawn up were filed at the offices of the city's building department on May 7, 1903, and were approved on August 12. Messrs. Pole & Schwandtner, a firm hitherto unknown, were engaged as contractors for the steel construction. Schwandtner testified that he had worked as a rivetter and blacksmith until about three years ago, when he started contracting. His work since that time had consisted entirely of repairs and alterations, and the Darlington was his first independent job of erecting an iron building.

Soon after this arrangement had been made representatives of several structural iron firms called on Allison, according to his evidence, and told him that the amount of metal called for by Neville & Bagge's plans was excessive. As a result there was drawn up by Mr. G. B. Waite, an engineer formerly connected with the building department, a second set of plans, modifying the first plans in the direction of less iron and steel. Allison took these second plans to Bagge, who asserts that he refused to sanction them on the ground that the building would be unsafe if they were adopted. In spite of his objection the Waite plans were signed by Neville & Bagge before being submitted to the building department. The architects affirm that their signature was not intended as making them responsible for the plans, but only as supporting the application of Waite to have them considered. The Waite plans were filed with the building department on July 29, and were disapproved on November 25.

We now come to an even more surprising phase of this strange history. It might have been supposed that there was nothing to do but to proceed according to the first set of plans, which had satisfied the scrutiny of the department. The contract with Pole & Schwandtner, signed on August 16, called for a building in accordance with this set. It is difficult to tell exactly what happened at this stage, for the history of the third set of plans is confused by contradictory evidence. Schwandtner affirms that Allison brought him the Waite plans and declared that they had passed the building department. The steel contractor then engaged an engineer to fit the first and second sets together, taking the columns from the first set and the flooring from the second. He insists that Allison knew of this adaptation into a third set. Allison's own account is that he knew nothing of it until November 25, when, the building already being up two storeys, Pole & Schwandtner told him that they were going ahead on plans of their own. "I told Mr Schwandtner," he testifies, "that he had a frightful nerve to draw extra plans without our consent or that of the building department, and two days later the company addressed a formal notice to the builders to get off the job in five days. They threatened to put liens on the property and to prevent any other contractor from taking the job, and finally the matter was arranged and they were permitted to continue." Neville & Bagge say that the third plans, which followed the original as to girders, but differed as to beams, were shown to them, but they refused to countenance them in any way.

At any rate, it is established that the third set of plans was submitted to the building department in December and rejected, and that it was according to these plans that the building was actually being constructed when it collapsed. A draughtsman named O'Hea was hired by the Allisons at 5 dols. a day to oversee the construction. O'Hea testified that he was not really competent to superintend iron structural work He is a cripple from rheumatism and never went above the third floor of the structure he was superintending. No engineer or architect was employed to inspect the progress of the work.

The disaster occurred on Wednesday, March 2. In a windstorm on February 17 the building, then up to the ninth floor, swayed from 18 inches to 2 feet out of plumb. Allison telephoned to the building department, but when told that the inspector was not in, made no further communication. The swaying structure was pulled back by cables. This incident was affirmed by several witnesses, and the contractor for the plumbing testified that he was told about it at the time by his men. "Where are your men?" asked the attorney. "All killed," was the laconic answer.

But what was the city's building department doing while these pranks were being played? Evidence was given by a building inspector, who said that nearly fifty buildings were under construction in his district, and he was able to give each of them only an hour or less a week. He had examined the Neville & Bagge plans at the offices of the department, and thought the building was going up in accordance with them when he observed that the columns and girders were as specified. He had repeatedly called attention, however, to violations of the plans, and a fortnight before the crash ordered the builders to straighten the upper storeys, which he found two or three inches out of plumb. He had visited the Darlington the day before it fell, but had not noticed whether there was an accumulation of structural iron on the top floor. He had observed, however, that the columns for the eleventh storey had been set up without tie beams.

The verdict of the coroner's jury finds that the disaster was due to defective design, a total absence of competent supervision and the employment of inexperienced contractors. It pronounces Eugene Allison and the firm of Pole & Schwandtner to have been criminally negligent. It recommends the passing of a law to prohibit the erection of buildings without the superintendence of the original architect or a competent builder of at least five years' experience. It further recommends that the building department of the city have a corps of competent engineers to inspect the erection of all buildings requiring engineering skill, and that a copy of the approved plans of each building be kept on the premises during construction. In addition to this verdict four jurymen submitted the rider that all architects, engineers and contractors engaged in the structural work of all buildings in the city of New York be experienced in their several lines and be licensed by law.

RUSKIN AND THE PRE-RAPHAELITES.

An application having been made by Mr. Charles Rowley to Mr. W. M. Rossetti for some words on the Ruskin Exhibition, Manchester, the following letter was received :—

Dear Rowley,—As you are inclined to have a few observations from me *apropos* of the Ruskin Exhibition in Manchester, I cannot but comply, although there are two reasons why my response will be of minor import—(1) that I have not seen this exhibition, and (2) that what I can jot down has been already anticipated in a measure in writings of mine already published.

As to the exhibition itself, I understand it to be an uncommonly fine and complete display of what Ruskin had it in him to do in the line of actual fine art. Such being the case, I am sure that all intelligent Manchester people will agree with me in saying that both in capacity and in accomplishment Ruskin was genuinely an artist no less than what the world knows him to be—a consummately fine writer of the critical imaginative order. I use the word "capacity" rather than "faculty" because, after one's heartiest recognition of the admirable qualities of Ruskin's art—its precision, refinement, delicacy, charm, and in some instances strength—one still admits that he had not that endowment of formative combination and unison which nature and art demand of a man who is to be absolutely a painter. This is a fact which no one knew better than Ruskin or acknowledged more unreservedly. None the less he was an artist-student—an exquisite and surprisingly good one.

What else I can say may best deal with Ruskin's relation to the so-called pre-Raphaelite movement and with my personal knowledge of the man.

It is quite a mistake—and everyone fairly conversant with the facts knows this now—to suppose that Ruskin set pre-Raphaelitism going. The pre-Raphaelite Brotherhood was formed in the early autumn of 1848. I need here only mention by name three of the members—Millais, Holman Hunt, and my brother, Dante Rossetti. The other four members were, so far as concerns knowledge of and discipleship to Ruskin's writings, on the same footing as the leading three. I am sure that neither Millais nor Rossetti had in 1848 any acquaintance with Ruskin's books, which at that date consisted solely of the first two volumes of "Modern Painters." Holman Hunt may perhaps have known something of the books, though I do not recollect this as a fact, but if there was one young man in the painting profession resolutely disposed to act upon his own perceptions and views, and not upon those of other people, that man was Holman Hunt, and therefore his knowledge of "Modern Painters," whatever it may have amounted to, can have had but little influence. Combining in 1848 the pre-Raphaelites exhibited in 1849 with some *éclat*, and they exhibited again in 1850, greeted by a monstrous deal of abuse. The nonsense and vituperation poured forth upon that youthful masterpiece of Millais, "The Carpenter's Shop" (Holy Family), would scarcely be credited nowadays. In neither of those years did Ruskin print a single syllable about the pre-Raphaelites ; whether he so much as saw their pictures, and still more whether he liked them, I know not. In 1851, however, prompted by Coventry Patmore, he did come forward with a vigorous letter to the *Times*, and from that date onwards his championship of Holman Hunt and Millais (for even yet he said nothing about Rossetti) was of the most substantial service to them with the British public. The discerning public would not believe that the young men painted good pictures when they saw these with their own eyes, but they would and did believe, in great measure, an influential critic when he "rolled them out his mind," asseverating that he "saw that they were good."

Thus much for Holman Hunt and Millais. It was not until 1853 that Ruskin came across some work by Rossetti in private hands—for the artist, left much in the lurch by purchasers, had then already left off exhibiting. Ruskin expressed (but not in print) his high estimate of this work, and in April 1854 he called upon Rossetti and entered into an arrangement with him for buying, at such prices as the painter would ask of other persons (and very moderate they were), any of his productions, if only Ruskin happened to like them. This arrangement held good for two or three years and was of great advantage to Rossetti, otherwise very little known; Millais and Holman Hunt meanwhile advanced with rapid strides in public favour—still mingled, it is true, with public disparagement in some quarters.

This is, in brief *résumé*, the history of Ruskin's relations to the pre-Raphaelite movement. It is well known that our critical autocrat was not invariably of one and the same opinion. As he advanced in years he more than once declared that much of what he had written and published at earlier periods was erroneous. He printed at times very harsh things of Millais's performances and of Rossetti's—possibly not of Holman Hunt's, but with these also he was not uniformly satisfied. On the whole he certainly found that his prognostics, in 1851 and for three or four years ensuing, as to the magnificent results to come out of the pre-Raphaelite movement were not fulfilled—partly because the artists of that comradeship did not all stick so rigidly as he had hoped to their primary motives and practices in the art. There was a second and much modified form of pre-Raphaelite work, that of which the highest exponent was Burne-Jones; and I take it that this came nearer in the long run to conciliating Ruskin's favour than anything which he saw produced in their later years by the first pre-Raphaelite band, the members of the "Brotherhood"

My own personal knowledge of Ruskin began in the autumn of 1854. I was by that time a fervent admirer of his writings, and I saw a great deal of him for a few years, ending about 1866. After that his frequent absences from London kept him and me apart, without any weakening of my great regard for him, nor, I think, of his goodwill towards me I liked Ruskin extremely. He was courteous in the highest degree, refined, willing to oblige, companionable, gentle, kindly and almost affectionate in manner. That he was highly principled, high-minded and high-thinking I need not say, nor yet that he was a very spendthrift of munificence In this I should have been sorry to partake, even to the value of a sixpence, but I cannot question that bank-notes would have been forthcoming had I fished for any. No doubt there was a certain undercurrent of self-esteem or self-opinion which, with a difference in demeanour, would have come perilously near to arrogance; but as the basis of our intercourse always was that I regarded his views with deference and put forward my own only tentatively, with modesty and reserve, nothing ever occurred to ruffle the smooth-flowing surface. He was fully ten years my senior—even had there been no other reason for my assuming this attitude towards him. I knew also Ruskin's father and mother, and his cousin Miss Agnew, now Mrs. Arthur Severn Not long after Ruskin's death I had occasion to pass a day or two at his house, Brantwood, near Coniston, as the guest of Mr. and Mrs Severn, from whom I received the most agreeable and cordial treatment. I see that this lady was among the best of the speakers at the opening of your Ruskin Exhibition.

There are four books written or edited by me in which Ruskin figures prominently. They are:—(1) "Dante Gabriel Rossetti as Designer and Writer," 1889; (2) "Dante Gabriel Rossetti: his Family Letters," with my memoir, 1895; (3) "Ruskin, Rossetti, Pre-Raphaelitism," 1899; (4) "Rossetti Papers, 1862 to 1870," 1903. I also in earlier years wrote various reviews and articles concerning him. Two of these, as I was gratified to learn, secured his approval.

These remarks, my dear Rowley, are what occur to me to set down. They are at your service for any use to which you may care to put them.

TESSERÆ.

Gerard Christmas.

It may be presumed that this artist was as much a sculptor as an architect; and before the portal of Northumberland House was altered by Sir Hugh Smithson, Bart., created Earl of Northumberland in 1750, there were in a frieze near the top, in large capitals, C.Æ, an enigma long, says Walpole, inexplicable to antiquaries. Vertue found that at that period when the house was built lived Christmas, an architect and carver of reputation, who gave the design of Aldersgate, and cut the bas-relief on it and James I. on horseback, and thence concluded that those letters signified Christmas ædificavit Jansen, Walpole says, probably built the house, which was of brick, and the frontispiece, which was of stone, was finished by Christmas. The carvers of the great ship built at Woolwich by Mr Peter Pett in 1637 were John and Matthias Christmas, sons of Gerard. These sons also made a tomb at Ampton, in Suffolk, for Sir H. Calthorpe.—Gough's "Topog." vol. i. p. 579 In the same work is mentioned a panegyric on "Mayster Gerard Crystmas, for bringing pagents and figures to such great perfection both in symetry and substance, being before but unshapen monsters made only of slight wicker-work and paper." Vertue had seen a printed copy of verses in praise of Gerard Christmas the father.

Fuseli as a Teacher.

As a teacher of the fine arts, whether Fuseli be considered in his capacity of professor of painting or in that of master in the schools of the Royal Academy, his knowledge stood unrivalled: in the first, for critical acumen, and in the second, for the soundness of his judgment, for the accuracy of his eye, and for the extensive knowledge which he possessed of the works of the ancient and modern masters. To the students he was a sure guide and able master, ever ready to assist by his instructions modest merit and to repress assumption; and if he felt convinced that a youth was not likely to arrive at eminence as an artist, he was the first to persuade him to relinquish that pursuit rather than proceed in the path which would only end in ruin or disappointment. He always held the opinion, however liable to objection, that there is no such thing in the universe of mind as "a flower born to blush unseen and waste its sweetness on the desert air," for every man, he considered, would show what is in him and do all that his nature has qualified him to do. To those who presumed upon a talent which they did not possess no man was more severe. It was no uncommon thing with him, if he found in the Antique Academy a young man careless about the accuracy of his lines and intent only upon giving a finished appearance to his drawing, to cut in with his sharp thumb-nail a correct outline, and thus spoil, in the opinion of the student, his elaborate work. That the English school of design gained great advantages by his appointment of keeper of the Academy cannot be doubted, and to be convinced of this it is only necessary to refer to the able works of Hilton, Etty, Wilkie, Leslie, Mulready, Haydon, Briggs and others, who were his pupils.

GENERAL.

The Delegates attending the International Congress of Architects at Madrid were given a reception at the Royal Palace on Monday.

Professor Seeley, F.R.S., will conduct a series of ten geological excursions on Saturdays to observe the geological conditions of the main channel of the Thames and some of its tributary streams. The first excursion to Purfleet, on April 23, will examine geological conditions of the outflow of the Thames from the London basin.

Mr. G. F. Bodley, R.A., is the architect for the new church in Leicester, which is to be a memorial of the Nedham family. The funds have been supplied by Canon Macaulay and Canon Rayson.

Mlle. Simonnet, pupil of MM. Ferdinand Humbert and de Winter, has been placed at the head of the list for the preliminary competition for the Prix de Rome in Painting, and is entitled to take part in the next contest.

"The Bible of Amiens," by John Ruskin, has been translated into French by M. Marcel Proust. Some of the author's books are also being translated into German.

The Jury who have to consider the façades of Paris completed in 1903 and submitted in competition will have to examine and report upon no less than eighty-seven buildings. The last day for sending in particulars was Saturday last.

The Board of United States General Appraisers has decided that architects are "artists," and that architectural drawings, for tariff purposes, are dutiable in the same class with "paintings in oil and water colours, pastels, pen-and-ink drawings and statuary, not specially provided for"

The King and Queen have recently honoured Mr. Weigall with sittings at Buckingham Palace for their portraits, which he is painting for Wellington College The portraits are three-quarters length, and represent the King in field-marshal's uniform, and Queen Alexandra in evening dress.

The Building Committee of King's College Hospital have resolved to invite the following architects to send in designs in competition for the appointment of architect for the new buildings of the hospital at Denmark Hill:—Mr. E. T. Hall, Mr A. Saxon Snell, Mr. J. H. T Woodd, Messrs. Campbell Douglas and Paterson, Mr W. A. Pite and Mr. W. Harvey.

Sir E. J. Poynter, P.R.A., reports that during the past year no less than 539 873 persons visited the National Gallery. The attraction of English pictures is suggested by the fact that 275,526 visited the gallery at Millbank.

A Model Foundry is to be carried on in connection with the St Louis Exposition. Plans are now completed and the construction of the building will soon begin. The Worcester (U.S.) Polytechnic Institute will assume entire control

The Secretary for India has vetoed the proposal to abolish the engineering college at Coopers Hill.

At a Meeting of the Society of Engineers, which will be held on Monday next at the Royal United Service Institution, Whitehall, Mr. H. C. H. Shenton will read a paper on "The Latest Practice in Sewage Disposal."

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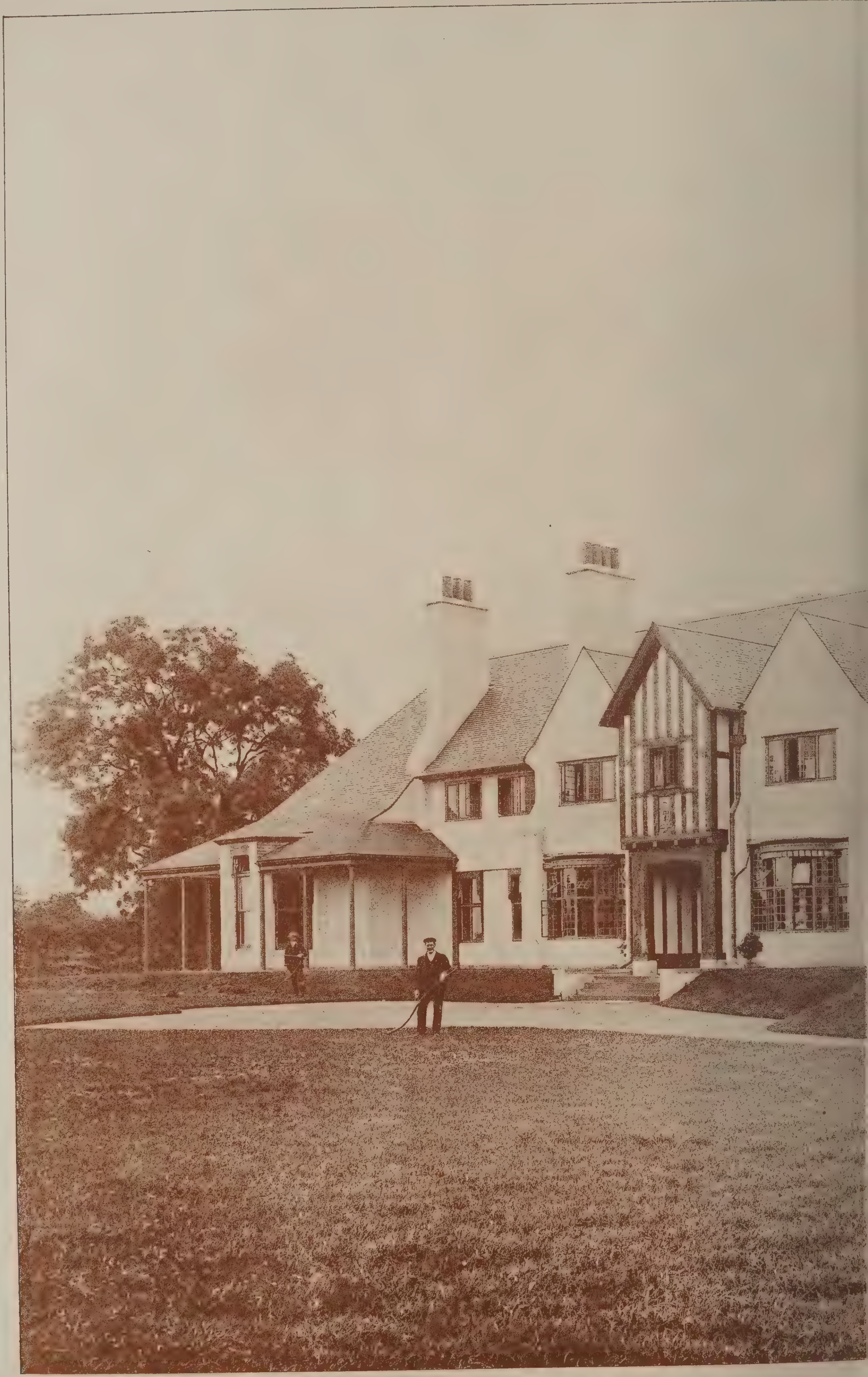

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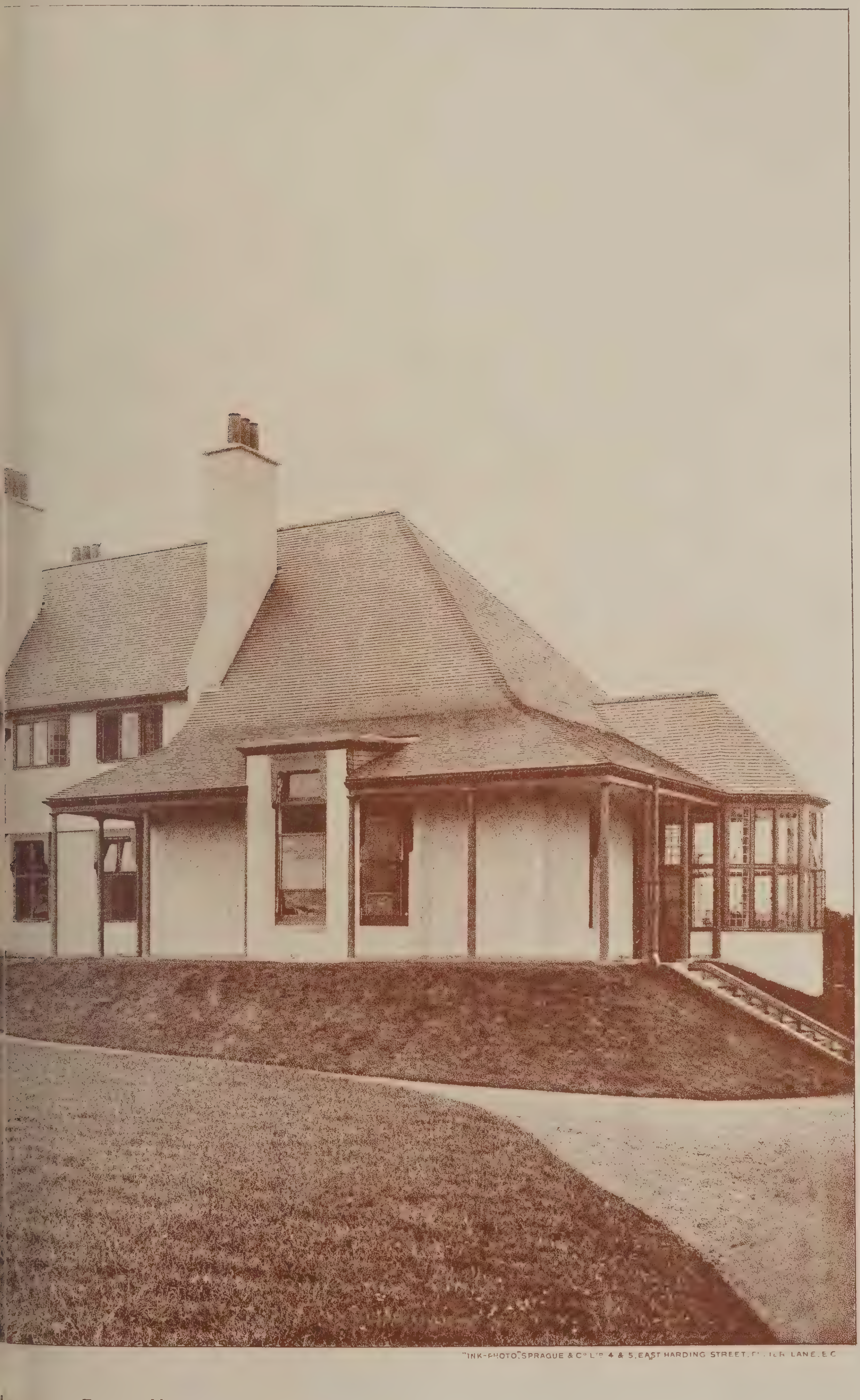

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SPITAL: FRONT VIEW.

, Architect.

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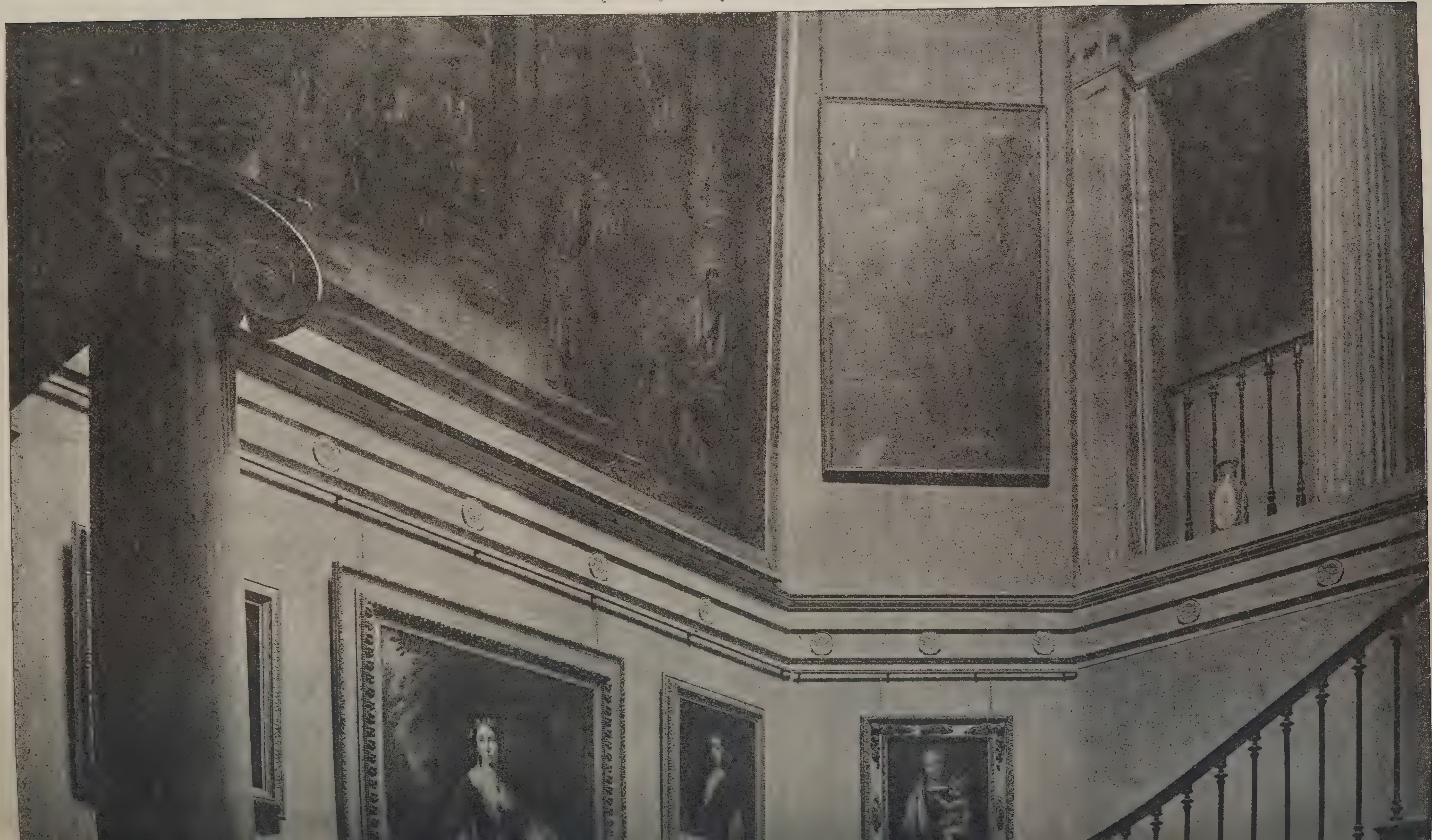

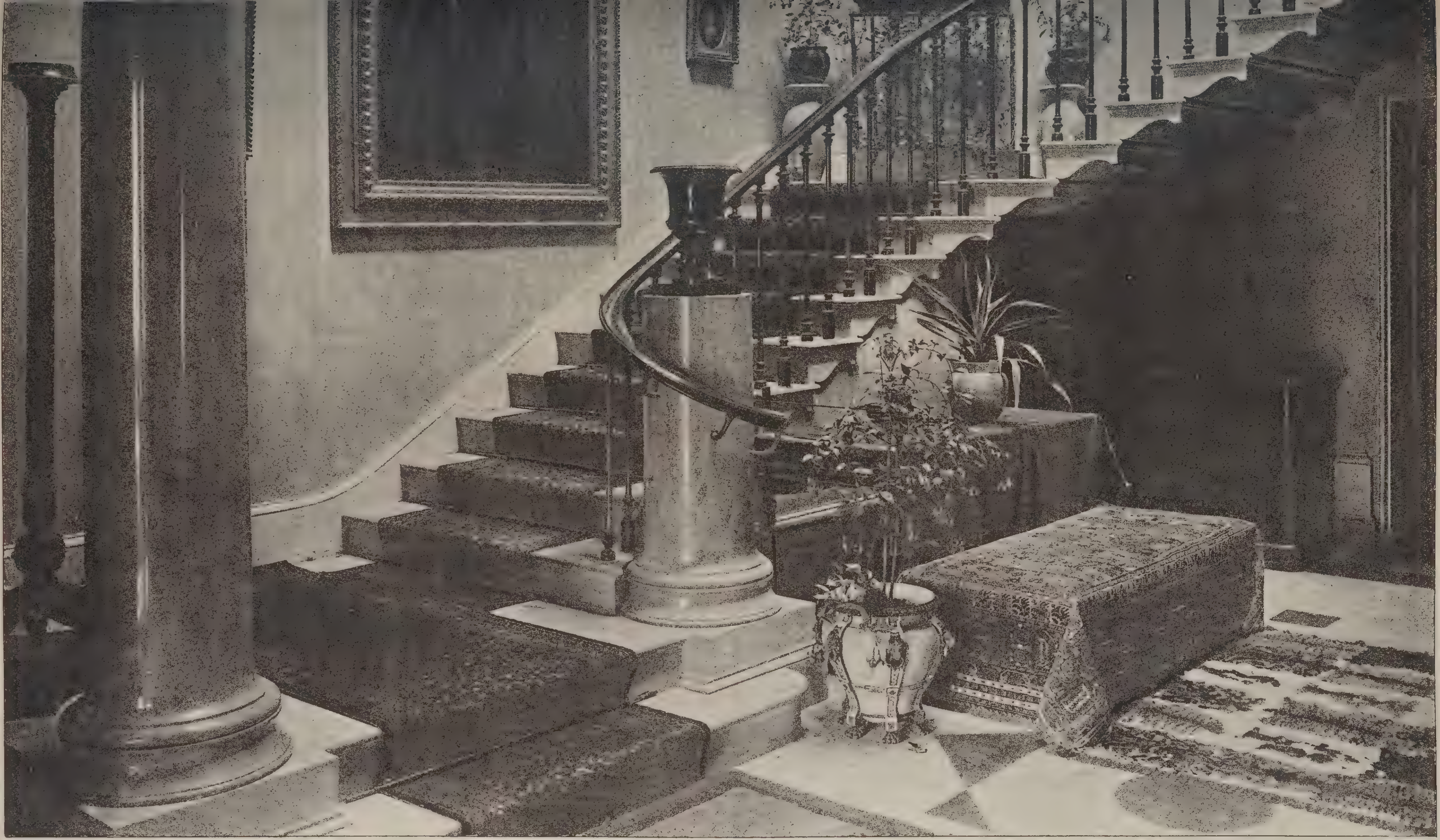

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Oakly Park, Bromfield, Salop: Hall and Staircase.

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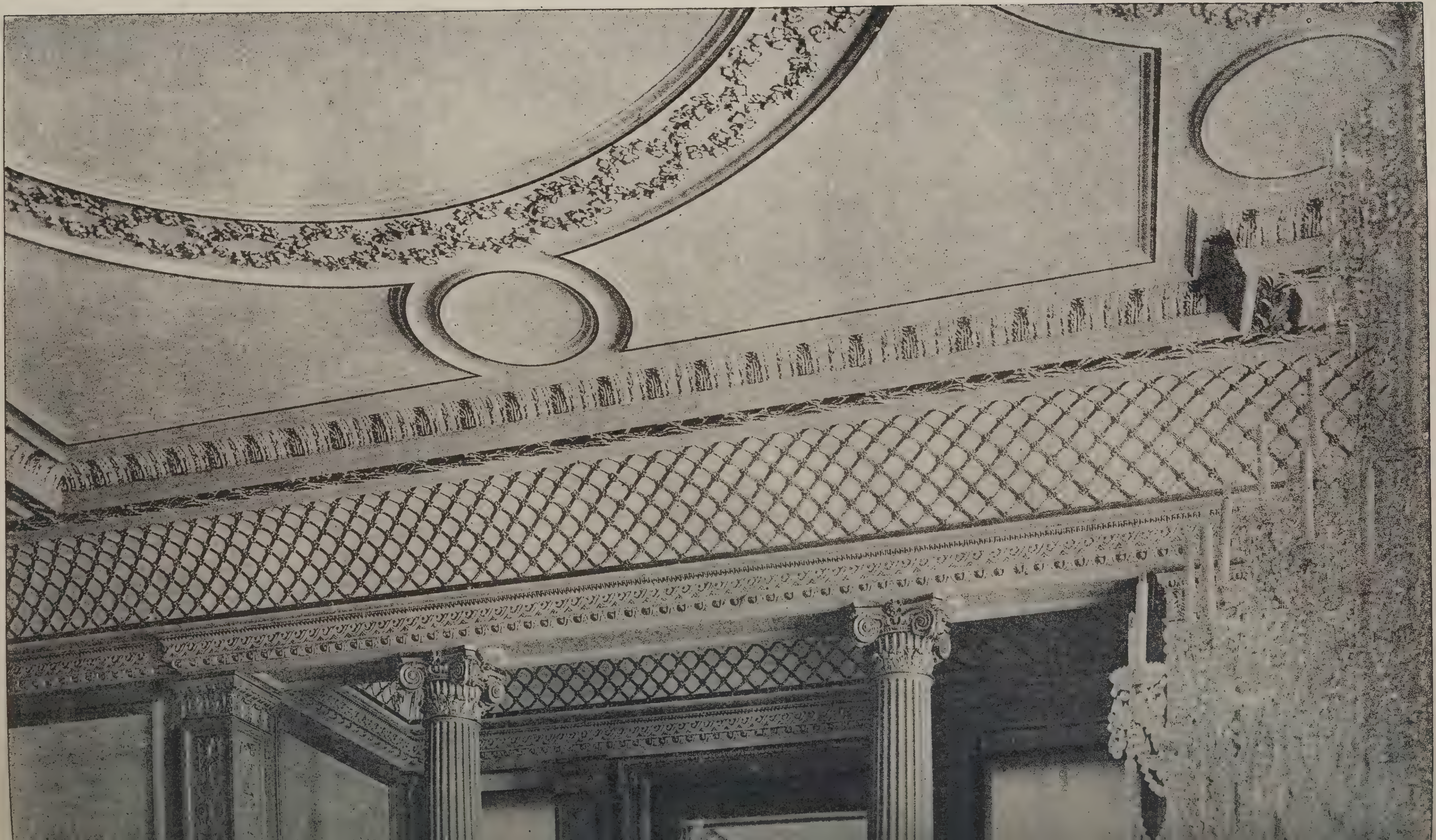

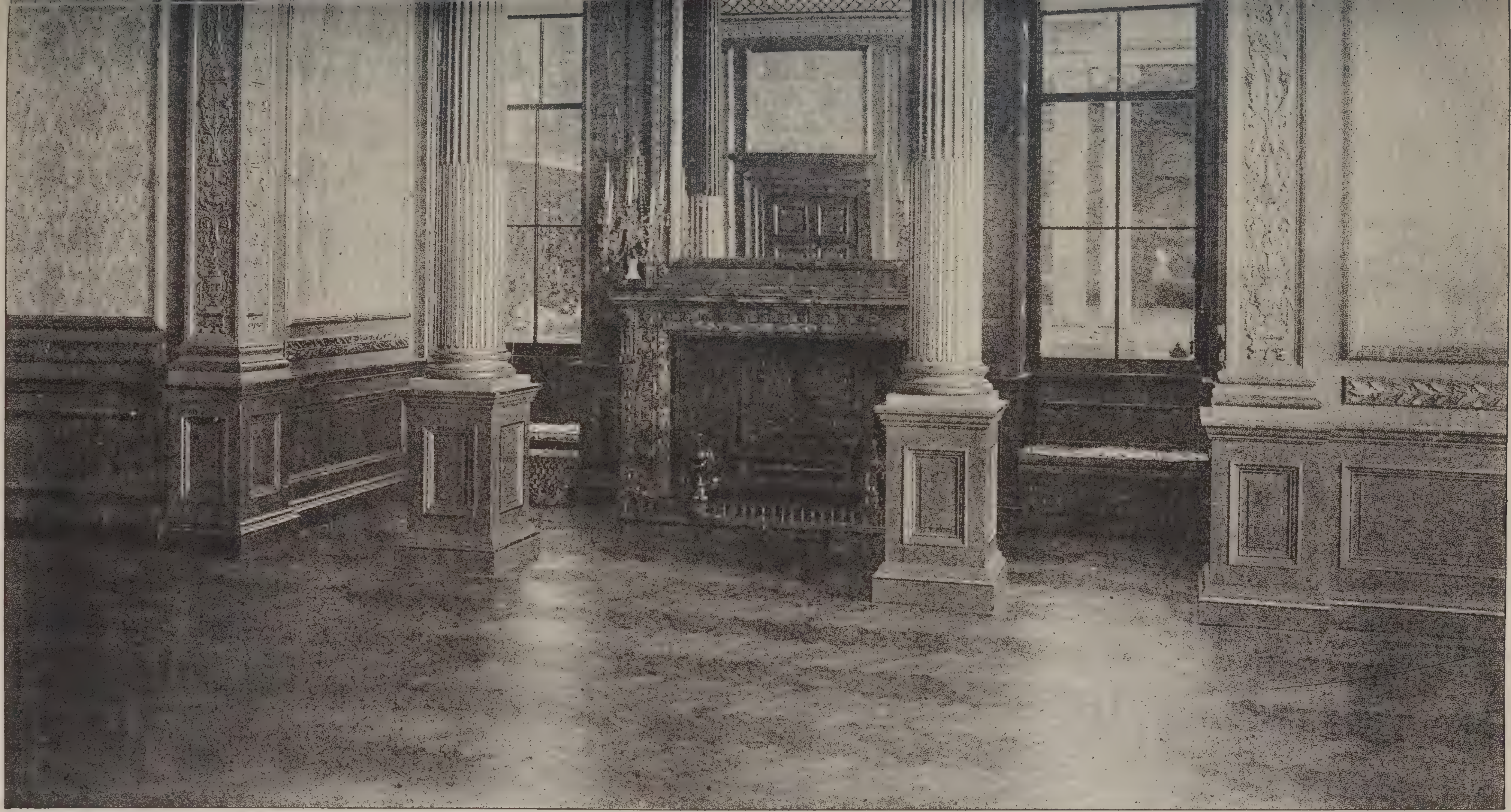

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CAVERSHAM PARK, READING: DRAWING ROOM.

The Architect.

THE WEEK.

AST year the late Judge Martineau heard a case nder the Workmen's Compensation Act which caused issatisfaction among employers. A machinist in the mployment of Messrs. Norman & Burt, builders, injured is hand. As his wages at the time (May 1901) were 37*s.* a eek, he was awarded 18*s.* 6*d.* weekly. The man set up in usiness as a baker, and was able to carry it on with the ssistance of his family. He was supposed to be making profit of 2*l.* a week. Application was made for the uspension or reduction of the compensation, for the Act ays "that any weekly payment may be reviewed at the equest of the employer or workman, and be diminished or creased." Judge Martineau stated that "the compensaon to the workman for personal injury is, in my opinion, learly assessable with reference to weekly wages or earnings arned before the injury, and weekly earnings or wages arned after the injury, and, in my opinion, trade profits in business are no more to be taken into account than come of real estate. It may well be that the work in espect of which wages were earned after the accident need ot be *ejusdem generis* with the work in respect of which ages were earned before the accident, and there is thority in the Court of Appeal for that view, but, my opinion, earnings in trade are not earnings within e meaning of schedule 1, paragraph 2, of the Act." he application for a review of the decision was refused. n Tuesday the case came before the Court of Appeal. The laster of the Rolls said that earnings other than those rned from an employer were not excluded by the Act. What the Act was seeking to adjust was compensation for ss of the workman's earning power. The most that the ct, however, allowed to be awarded to him was one-half his average weekly earnings, showing thereby that the mpensation was not intended to be complete compensaon. Paragraph 12 allowed an application to be subquently made to review the weekly payment, and then e whole situation would have to be looked at, and the bitrator would then have to say how far the money-earning pacity of the workman had been altered, and if it was good as it was before the accident, that was a fact hich was not to be ignored, though the source of come was not wages earned from an employer." His rdship said the case must go back to the County ourt to be considered on its merits. Lord Justice Romer reed that the Act did not limit the earnings to sums rned from an employer, for a man might be his own aster. The decision is not so hard upon workmen as ight be supposed at first. If a case is reviewed the lowance may be increased, and it is only justice to allow at under certain conditions reductions may also be uitable. The Act does not pay compensation for any in or suffering which has to be endured, but for the ability of a workman to support himself by his labour. henever a man recovers and is competent to resume rk—it may be of another kind so long as it is equally munerative—there is no necessity for a contractor to ntinue payment as if he had personally committed an sault which brought injury for life.

Brighton, if considered from the promenade by the a and as it appears in posters, has a claim to be accepted the "Queen of Watering Places," a title which local genuity conferred on it. Few visitors care to make emselves acquainted with more than the leading roughfares. If they ventured into the intervening eas they would discover that Brighton has, like larger ces, its slum districts. The improvement of them has zzled many benevolent people, for the value of such operty does not differ much from that of London, or in er words becomes exorbitant whenever sanitation is oted. Dr. Newsholme, the medical officer of health, s offered a suggestion which was discussed and rejected the meeting of the Council a few days back. He ired to have an imitation of the Camberwell system, ere improvement was carried out in a very poor quarter without displacement. The sanitary committee approved of the suggestion on the understanding that they were not to advise the Council to purchase any houses unless they have ascertained that such houses can be adapted for the very poor and can be let at rentals which, while the poor will be benefited, will not involve any burden on the rates except the expense which may be necessary to be incurred in demolishing here and there houses which impede through ventilation. The occasional removal of a house to give more air in a crowded lane was an essential feature in the proposal. The majority of the Council were unfavourable to the recommendation. It was said that 70,000*l.* had been expended on the purchase of slum property and that the result was an absolute failure. But with so vast a mass of undesirable habitations only very sanguine people could expect beneficial returns from so small an outlay. It was proposed by some speakers that the Council should erect houses in the suburbs, and in that way attract people from slums, but that also would be a costly remedy. The evil which has to be encountered is not peculiar to Brighton. In the majority of towns there was a long period of neglect by the authorities, and the present inhabitants have in consequence a legacy of danger which it will be costly to evade.

It is fortunate the Royal Academy possesses the best of all the copies of Da Vinci's *Last Supper*. It is by his pupil Marco d'Oggionno. If Da Vinci were again to visit the refectory of S. Maria delle Grazie it is doubtful whether he will be able to recognise a single stroke which had been produced by his hand. A century after it was produced it was described as totally ruined. Again and again it has been restored. James Barry, the Academician, relates that when he visited the convent one of the monks, who was a fellow Irishman, was operating on the painting. Barry remonstrated, but apparently he did not realise how often the repainting had been executed. Now it is said the Town Council of Milan will take steps to prevent further decay. It is to be hoped they will succeed, for the ruined fresco at least suggests the size and disposition of the figures, and even that amount of certainty is gratifying.

A convention of railway engineers was held last month in Chicago. The subject of concrete received much attention from the committee on masonry. There was agreement that expansion joints are desirable at distances of about 30 feet. It often happens that concrete has to be laid in frosty weather. The recommendation was that ordinary concrete should not then be laid. Portland cement concrete, however, can be used under these conditions by special instructions. The sand, water and broken stone should be heated, and in severe weather salt should be added in the proportion of about 2 lbs. per cubic yard. Concerning armed concrete the following conclusions were adopted:—Where concrete is deposited in connection with metal reinforcing, the greatest care must be taken to insure the coating of the metal with cement and the thorough compacting of the concrete around the metal. Wherever it is practicable the metal should first be placed in position. This can usually be done in the case where the metal occurs in the bottom of the timber forms by supporting the same on transverse wires or otherwise, when the bottoms of the forms can be flushed with cement mortar, so as to get the mortar under the metal at the same time, and the concrete deposited immediately afterward. The mortar for flushing the bars should be composed of one part cement and two parts sand. The metal used in concrete should be free from dirt, oil or grease. All mill scale should be removed by hammering the metal, or preferably by pickling the same in a weak solution of muriatic acid. No salt should be used in reinforced concrete. A chemist who was present advised that whenever the metal is pickled in acid it should be thoroughly washed afterward so as to remove the acid before depositing the concrete. In Chicago a vast amount of concrete is deposited in winter, and at times when the temperature is below zero. But care is taken to have the materials heated and the work has been satisfactory.

THE WATER-COLOUR EXHIBITION.

As the cover of the catalogue of the exhibition of the Royal Society of Painters in Water-Colours announces that this year's is the "Centenary Exhibition," a visitor who had hitherto taken no interest in the art must become aware of the interesting fact. The Society was founded on November 30, 1804, with ten members, viz. Hills, Pyne, Shelley, Wells, Nattes, Gilpin, Nicholson, Pocock, and the brothers John and Cornelius Varley. The first exhibition was opened on April 22, 1805. It may not be as well known that the experiment, when the novelty had worn off, proved unsuccessful. After seven years' experience it was found the public had grown indifferent, and in November 1812 it was resolved "that this Society, having found it impracticable to form another exhibition of water-colour paintings only, do consider itself dissolved this night." In 1813 an exhibition of a transformed society took place, which was described as the ninth. The following notice was printed in the catalogue:—"The Society of Painters in Water-Colours, stimulated by Public Encouragement, and gaining Confidence from Success, have ventured this year on a considerable extension of their Plan. Pictures in Oil and in Water-Colours, Portraits, Models, and Miniatures are admitted into the present Exhibition; and should these increased efforts receive from the Public that liberal support which has always accompanied the former exertions of this Society, every Year may produce fresh sources of Amusement, and each succeeding Exhibition become more worthy of Approbation and Patronage."

The notice is a revelation that ordinary water-colour drawings, although produced by men who are now esteemed, failed to gratify the public. It is true that in 1821 there was a return to water-colours only, but taught by experience an effort was made to go beyond the range of the earlier masters. The employment of novel varieties of paper, the invention of new colours like "Payne's Grey," the use at times not merely of opaque colours, but of varnish, were all indications of a desire to produce effects which were avoided by those who may be considered as the English "Primitives." One consequence was that a belief arose in the existence of a legitimate treatment, and that all deviations from it were illegitimate. It happened, moreover, that the legitimates were fortunate in obtaining the aid of very able writers who were critics. Thackeray was one of them, and as a Conservative he laid down the law in the following words which he addressed to water-colour artists:—"You cannot produce by any combination of water-colours such effects as may be had from oil, such richness and depth of tone, such pleasing variety of texture as gums and varnishes will give; but, on the other hand, there are many beauties peculiar to the art which the oil-painter cannot arrive at, such as air, brightness, coolness and flatness of surface, points which painters understand and can speak of a great deal better than amateur writers and readers. Why will the practitioners then be so ambitious? Why strive after effects that are only to be got imperfectly at best, and at the expense of qualities far more valuable and pleasing."

It is very easy to insist on inflexible limitations. Some purists, for instance, hold that English writers should limit themselves to Saxon words of one syllable. Charles James Fox would not use a word in his History which lacked the authority of Dryden, and as a result produced one of the most unreadable books in the language. An author or artist ought to be granted the fullest liberty in attaining his effects. If Shakespeare, instead of reporting Macbeth as saying that his hand would redden the sea, substituted the sonorous words, "this my hand will rather the multitudinous seas incarnadine," it is allowable for an artist who wishes to strike the spectator to introduce one or one hundred strokes with opaque colour when he knows his end can be gained in no other way. Thackeray might be asked, "Why should not practitioners in art be ambitious, and endeavour to make their art, whether water-colour, sculpture or architecture, amenable to the universal law of development?"

It is well to accord some consideration to progress when visiting the centenary exhibition. The majority of the exhibitors believe that the days of "Prussian blue, rather tender," and Indian ink have vanished. Like their predecessors they have been following the courageous members of 1813 by a considerable extension of plan. In the first place, a great many drawings are to be seen which could not be attempted in what was deemed the palmy period of the art because no paper was then available which would be sufficiently large. Mr. Hopwood's drawing measures 41 inches by 38 inches; Mr. Thorne-Waite has one 40 inches by 26 inches; Mr. Hodson one of 34 inches by 22 inches; Mr. Bulleid has two of 34 inches by 22 inches and one of 37 inches by 20 inches; the President, Mr. Davis, Mr. Callow, Mr. Marshall, Mr. Eyre Walker, Mr. Henshall, Mr. Cuthbert Rigby, Mr. Evans and others show works which would be considered so phenomenal we doubt whether they would have been allowed admission into the room at Lower Brook Street, or Spring Gardens or the Egyptian Hall. Nor is it size alone that is remarkable. There are drawings which in depth of colour can sustain comparison with many oil-paintings, and there are others so unlike those which used to bear examination with a glass that they can only be viewed properly by standing at a long distance from them. Once it was believed that landscape was the proper field for the water-colour draughtsman. In Pall Mall we find not only numerous figure-pieces, but attempts at historical incidents, and, more surprising still, illustrations of Scriptural scenes. Mr. Walter West gives us a drawing of a private view at the old Society, taking his cue from Thackeray's description. It is doubtful whether the bishops would be less startled than the quakeresses if they could see the walls of the centenary exhibition. But all arts must change or they collapse, and the art for which at one time the miniature room of the Royal Academy was thought the most appropriate domicile, holds its own at the present day because its followers have been ambitious and experimenters. As was to be expected, nearly all the members and Associates have contributed drawings; and in the majority of cases they can be considered as characteristic of the artists, both in subject and style. One instance, *A Keeper's Cottage*, by Mr. J. W. North, is described as unfinished, but the authorship would be recognised at a glance, for it possesses the elements with which the public have been long familiar.

It is satisfactory also to find that the eligibility of architecture to display the qualities of water-colour painting is still respected. Mr. Herbert Marshall sends eight drawings, the largest being a view of Southwark Bridge, with St. Paul's in the background. It is rarely the contours of the upper part of the cathedral are so well portrayed, but the bridge itself fails to express its character as a structure that is metallic and latticed. The Château of Amboise cannot be too often represented, for it is probably the most picturesque feudal residence in France, and in the drawing it appears in all its glory. There are also some views of London, including another *Piccadilly*. Mr. Mathew Hale gives a suggestion of the melancholy Pisa. His view of *St. Raphael's Church, Bristol*, shows the building as seen through a haze, and visitors are likely to accept it as evidence of the neglect of scavenging, for which the city is notorious. Mr. R. W. Allan has varied his views of little sheltered harbours by a representation of the *Piazza del Popolo, Orvieto*. We do not recommend his style for imitation to architectural draughtsmen, but he certainly conveys the effect of the place. Another view is the *Porta Maggiore*, but in it the figures seem of greatest importance. There is likewise a drawing of the market-place. The three views are worth attention as applications of a peculiar mode of treatment under circumstances that might appear unfavourable to it. Mr. Albert Goodwin's drawings are always careful, and indeed might well be exact representations of buildings, but they generally derive their character from the mystic environment. In his *San Giorgio, Venice*, we have one of those mists which is not of the commonplace kind familiar to residents. In his large *Moonlit Silence, Pompeii*, the ancient city is seen enveloped in blue, and the same colour is carried into Vesuvius, as if to indicate cause and effect. The almost uniform level of the walls adds to the sense of solitude and desolation, for no picture can be more suggestive of the destruction. In *Durham*, which has been represented innumerable times, we see the red cathedral standing like a fortress, as if unconquered by the surrounding mist. The lightness and certainty of Mr. Goodwin's touch are better exemplified in the vessel lying beside the quay, *The Outward Bound*, and in *Woolly Bay, North Devon*. Mr. Hodson has a drawing of the courtyard of the inn at Caudebec, which has appeared in many architects' sketch-books. It is one of those combinations of timber and plaster which are less orderly than similar structures in this country. The view of Henry VII.'s chapel is a masterpiece, care being taken not to distract the attention by too many of the objects to be found there. Hardly a year passes without a view of the Piazza Erbe, Verona, appearing in a London exhibition. Mr. Hodson does ample justice to the architecture.

Mr. T. M. Rooke is as vigorous as ever in his drawings of buildings, and has grappled more boldly with colour. *Auxerre Cathedral* is very brilliant, and is worth comparing with Mr. Goodwin's *Durham*. The church forms a climax to a series of buildings, starting from the sheds on the quay. If gradation had been thought of by the architects, they could not have adopted a more admirable arrangement than is seen. The view of the *East Cloister, Westminster*, suggests appreciation of groining. There is also an admirable view of some of the Abbey tombs; but the drawing that is likely to be most admired is the view in St. Bartholomew's, Smithfield, which will be a revelation of that noble building to many Londoners. Mr. Rooke understands detail and does not shirk the attempt to express it, and in consequence many critics less well informed look on his drawings as problems which are beyond them.

The fidelity of the Society to Venice was rebuked by Thackeray, who said he was weary of gondolas, striped awnings, white palaces standing before dark purple skies, &c., but his words produced no change, and it is to be hoped Venetian scenes will long be familiar in the room. Mr. E. A. Goodall shows us the grand mass of *Santa Maria della Salute*, with the Dogana in the distance. The Salute has also attracted Mr. J. S. Sargent, and he has given a vigorous indication of the façade. The *Spanish Barracks* (an interior) is, however, better adapted to his treatment. *A Garden Vase* deserves a glance, as a proof of how easily form and relief can be suggested by very few strokes. If the whole of the Gwalior Fort resembled the portion in Mr. Reginald Barratt's drawing, England has much to answer for in permitting so exquisite an example of Indian art to be maltreated. In this as in his other drawings Mr. Barratt has the courage to be unequal in order to attract attention to parts rather than to the whole. At Gwalior the green and yellow ornamentation possesses greatest importance. In the view of St. Mark's it is the mosaic over the principal doorway and the gilded horses which are emphasised. Another drawing shows the courtyard of the Ducal Palace, but it is the bronze well or cistern which appears most worthy of notice. Mr. Wallis is one of the veterans of the Society. He contributes *A Street in Gorgey, Upper Egypt*, in which the white houses are occasionally varied by colour. Mr. Walter Crane sends a drawing of the Greek Theatre, Syracuse, which is noteworthy for many reasons, and some views from Taormina and Girgenti. We have said enough to indicate that the lover of architecture will find much to please him in this year's exhibition.

Works of a different class which possess interest can also be seen. Mr. William Callow's drawings are a little old-fashioned, but on that account they seem appropriate in a centenary exhibition. Mr. Little, whose northern landscapes have a refreshing breeziness, this year attempts historical painting in his *Homage to Lorenzo de Medici*. Architectural forms are so important in it, it might be described by another title, but such a work is a novelty in the exhibition. Mr. Bulleid's four drawings from the New Testament might have been produced for the chapel of a nunnery. The subjects are so exacting that even the measure of success attained is praiseworthy. Among the three drawings by Mr. Hopwood *The Cottage Service in the Hebrides* is not only the largest, but the most successful. It is as pathetic as a painting by Israels. In an humble room are seen some poor and aged people, and we can almost hear "the language of the soul," as Burns calls such humble orisons. Near it is a clever drawing, *Lady Flora*, by Mr. E. J. Sullivan, illustrating Tennyson's verse, and showing a lady gazing at herself in a looking-glass, a kind of subject that is always difficult and generally disappointing. Mr. Melville's only contribution is *The Music Boat*, a night scene at Venice, rendered brilliant, if not glaring, by Japanese lanterns. Miss Montalba's *At Work, Venice*, is remarkable for the spirit with which a crowd of people around some vessels are shown. In contrast with it is the drawing of *H.M.S. Worcester*, the vessel in which Admiral Togo received his training, and which is rendered mainly in black and white. Since the days of Richard Doyle there has been no artist more fitted to be the limner of fairyland than Mr. Arthur Rackham, but unlike his predecessor he works for others besides children. *Stop Thief! The Insurrection* and *The Giant* with his pair of heads are delightful, and they are more surprising as coming from the same hand as a view of *Covent Garden Market, Winter Afternoon* and *The Regent's Canal*. In his *Cupid's Alley* every one of the numerous figures is a distinct type. Mr. Napier Hemy's *Yacht Race* nearly corresponds with his *Youth* of last year, but however true it may be to seamanship to show the second boat almost touching the buoy, the obscuring of it by the round black mass is inartistic. Mr. Macbeth's two small drawings, *An Alsacian Bloom* and the *Minstrel's Silent Song*, are unsurpassed for charm by any of the figure pieces. In any of the century's exhibitions they would be attractive. Miss Constance Phillott's *The Herdsman of Admetus* is delightful, and is an example of peculiarly happy composition; although, of course, the figures are posed, they occupy their positions as if by accident. A great tree not only appears to dictate the arrangement, but aids in the perspective effects. Mr. Lewis Davis's *The Manger Throne* is a remarkable Scripture piece. Mr. Colin Phillip has two drawings of Norwegian subjects, which are no doubt faithful, but are striking from their severity and coldness. Whether we regard the exhibition as marking the close of a century or the beginning of one, it can be regarded as giving hope for the future of the Society.

THE MOSELY EDUCATIONAL COMMISSION.

The members of the Industrial Commission organised by Mr. A. Mosely consisted of representatives of various trades, such as bricklayers, plasterers, engineers, iron and steel workers, &c. They visited the United States and Canada with the object of discovering the causes of the superiority which enabled Americans to overcome Englishmen in business. The reports which were published last year, and which we noticed at the time, have had, we believe, the effect of introducing changes in the methods of production practised in some places in this country. Each member was a specialist, and as he investigated those matters alone which were connected with his everyday work the information had a right to be accepted as practical. But the reports convinced Mr. Mosely, as well as others who felt an interest in the problem, that much more was needed to be known. American manufacturers, their managers, skilled assistants and even the workmen appeared to be inspired by a spirit unlike what prevails in England, and the question arose, "How was it acquired?" When it is remembered that the majority of Americans can be considered as belonging to the same race as the inhabitants of this country, it was reasonable to presume that the innate ability of both peoples would correspond. The conclusion that seemed to be inevitable was that a different system of early education was adopted in America, and one which was better suited to qualify young people for taking part in business affairs. Mr. Mosely therefore resolved to investigate the subject by the aid of another commission.

It is manifest that the task undertaken by the Educational Commission differed from that of the Industrial Commission, and had to be provided for accordingly. In investigating manufactures each could be taken separately, for the processes with ironfounders were not the same as with the furnishing trades or the cotton spinners. It is supposed, on the contrary, unity prevails in education, and although a variety of systems may exist they are believed to coincide in their essential characteristics. It was no use, therefore, in sending a commissioner to inquire into the educational system of New York, Washington, Chicago or

Philadelphia. What Mr. Mosely did was to ask six-and-twenty gentlemen who were known as educationists to give independent statements about what they were able to observe in the schools and colleges of a large part of the United States. The reports which appeared this week consequently differ in character from those of the industrial delegates. The majority among them may be taken as treating of the same subjects. Representatives of particular industries cannot therefore expect to derive from the reports information of a kind that would seem to be particularly addressed to them. On the other hand, the conclusions of each delegate gain increased importance whenever it is found that they are corroborated by those of other members.

It is possible also that when the reports are studied there will be disappointment in this country. The American system of education if we adopt it means an outlay that would be astounding. We have believed for centuries in the Mediæval tradition that the teacher was of more importance than his classroom. One consequence was that until a recent time even the great public schools were allowed to remain in a state which now would not be tolerated in a workhouse. Although under the Education Act the buildings erected had to comply with official regulations for securing sanitary conditions, the most rigid economy had to be observed by the architects. The Americans know the value of money, but they realise that the appearance and arrangement of a school have much to do with the success of the pupils, and they have spared no expense in order to secure buildings that will be efficient factors in their educational system. "Every American teacher, primary as well as secondary," remarks one of the delegates, "endeavours to infuse a current of good-humour, of joy of life, into his or her pupils—a joy of life which never forsakes them," and the shrewd citizens know that such a joy is almost unattainable in depressing classrooms. Let us see how that end is gained.

Mr. Mosely describes the school buildings as magnificent. The Rev. T. L. Papillon, in referring to the expenditure on schools and their equipment in most American cities, says :—"The Central High School building at Philadelphia is stated to have cost 1,600,000 dols. (320,000*l.*) ; and at Pittsburg we were told that 300,000 dols. (60,000*l.*) had recently been expended on the purchase of a site for a new high school. Such huge figures seem almost incredible. Yet I see from a recent report of the superintendent of school buildings for New York city that the cost per pupil of the Wadleigh High School for Girls (600,000 dols., or 120,000*l.*) and the estimated cost of the Morris High School in course of construction (583,000 dols., or 116,600*l.*) is 'less than one-half of the cost of the high school buildings in other cities.'" Mr. Anderton says the efficiency of the school is the one thing aimed at in New York, and no expense is spared to reach this desirable goal. According to Professor H. E. Armstrong, the school buildings can be pointed to with pride, and the people are proud of them. "I am not aware," he adds sorrowfully, "that we take particular pride in the erection of our Board schools ; it is rather our habit to grumble at the outlay they involve." In one case he expresses the hope that some trade schools to be erected in Brooklyn "will not be so palatial and ornate as to destroy the true workshop-like character and atmosphere of the cramped quarters in which the work is now carried on," an expression which is characteristic of an English teacher who imagines that work can be better done when pursued under difficulties. And again, he asserts when noticing the Columbia Teachers' College :—"The whole building seemed to me to be out of character with the work to be done—far too ornate ; and the students—mostly women—looked far too respectable and tidy to please me." Mr. Harry Coward, of the Knowle Council school, Bristol, says :—"The buildings of New York are magnificent structures, and no expense has been spared to secure the very best that can be obtained. We saw some buildings that cost from 40*l.* to 50*l.* per child to erect, a sum which would frighten our school authorities at home." We are further informed by Professor T. G. Foster that in Chicago "a strong attempt is made in all the newer buildings to combine a suitable dignified exterior with a well-planned, well-equipped interior. The form of building that is preferred to any other is that of the H, that being the form from which the greatest amount of air and light may be obtained. The greatest care is spent on the heating and ventilating of these buildings. One superintendent told me that he now spent as much on the heating and ventilating of a building as a few years ago he would have spent on the whole building itself. It would, I feel sure, be worth while for the new educational authorities of England to note carefully the American methods in these matters." Professor Rhŷs in his report records that :—"One of the results that stare you in the face wherever you go is the fact that the school buildings form one of the most notable features of the architecture of American cities. I have not attempted to make a list of such cases, as I found it too much the rule to be described in detail ; but I may mention that at Pittsburg one of the stateliest buildings in the whole place is what we should describe in the United Kingdom as a public elementary school. It is such and so stands, that, taken merely as a building, it would have done credit to Oxford or Edinburgh ; but it is only one among many fine school buildings with which Pittsburg and its immediate surroundings are dotted, not to mention such other buildings there as that of the Carnegie library and art galleries, on which, as I was told, some five million more dollars are about to be spent. Pittsburg lies enveloped in the smoke of its great steel works, and reminds me of the appearance presented years ago by Merthyr Tydfil and Dowlais in Glamorganshire."

He inquires what was done by the two or three families who made colossal fortunes at Merthyr? The scarred meadows and disfigured hills dolefully reply "only rubbish heaps, heaps, heaps." Even for Reformatory schools the barrack building has ceased to be accepted as appropriate ; the cottage system is preferred, although it is more costly, for, as Mr. Spender remarks, "expense is not considered when a rotten manhood can be prevented and an honourable citizen can be matured."

It must not be supposed that because buildings which are suited to their purpose are costly, the outlay on them is counterbalanced by niggardly treatment of the teacher. In the elementary schools the salaries range from 100*l.* to 500*l.* a year. It is inevitable there should be grumbling about expenditure, but it arises from the salaries paid to officials in the administrative departments rather than to teachers. Besides the elementary schools there are high schools and universities, trade schools and technical institutes. The Rev. Professor Finlay, S.J., believes that "of all of them, with a few exceptions, it may be said that their aim is the same—to form smart, quick-witted, alert business men and women rather than scholars or thinkers." One effect of education is, he says, that no boy in an American school looks to digging and delving as a livelihood, nor does a girl contemplate domestic service. He asked a contractor who was paying thousands of men how many of those employed on his earthworks had been educated in an American school. The reply was, "Probably not one." Labour of that kind is left to Europeans. But in the higher positions the true captains of industry are not necessarily graduates of American universities or schools. It is the opinion of the Professor that :—"In every great city, among the most successful employers of labour are to be found immigrants from England, Ireland and Scotland, many of whom received their early education in an indifferent country school. These men have learned the arts of industrial success in the school which their social surroundings in America provided. In the same school also the native-born leader of industry in America receives his best education."

Whatever it may be at present, there is a likelihood that in the future the transition from the school to the workshop or factory with all its advantages will be easy and accepted as a matter of course. In the majority of the reports from the delegates we find statements from the heads of large businesses, directors and superintendents in favour of such preliminary training as is to be obtained in the American schools and colleges. The testimonies of that kind are so numerous it would be impossible for us to refer to a tenth of them. Professor Ayrton says :—"Everywhere I was told an engineering apprentice in a factory should be a college trained man ; an engineering professor in a college should be actively engaged in the practice of his profession." At the Westinghouse works the engineering apprentices must be first-class graduates of leading technical schools. They receive at first 8*d.* an hour, and if they are bright may be raised to 30*l.* a month at the end of eight months. All the most prominent officials have been graduates. There are also non-technical apprentices, who on joining are paid 2½*d.* an hour; their wages increase to 7½*d.* an hour by the fourth year. The graduates should be possessed of some qualifications for business, as the engineering professors in the colleges are not only allowed to do outside work, but the authorities insist on their being actively engaged in practice. Some of the professors at Cornell earn in that way three or four times as much as their university salary. Lecturers are from time to time called in who are likewise engaged in practical work. One of the reasons for having thoroughly efficient professors is that in engineering, and indeed in most professions, articled clerks are obsolete. Principals feel it would not pay them to instruct pupils, and the example of idle or semi-idle young men in an office would be injurious. If an assistant can do anything he is paid.

A great many young fellows are unable to take advantage of technical schools and university classes, although the courses may be arranged on a broad basis. For them the correspondence classes may be said to form a new and admirable institution. Some of the delegates paid attention to the novelty, and found no difficulty in discovering evidence of its advantages in many ways.

The United States Commissioner of Labour says of the classes:—"It would be impossible to estimate the benefits that have accrued to those who have been under instruction. In the higher positions are to be found foremen, superintendents, master plumbers and builders, architects and electrical and mechanical engineers, who bear witness to the work of this instruction. Men already engaged in trades as machinists and patternmakers have been enabled to rise to mechanical draughtsmen and designers; carpenters, cabinet-makers and bricklayers have become architects; miners have been promoted to foremen and superintendents; and in electrical occupations linemen, repairmen and motormen have been advanced to inspectors, foremen and electricians. There are thousands of students also whose earnings and prospects have been increased from 50 to 200 per cent. by the instruction they have received."

The Scranton International School of Correspondence has on its books the names of 135,000 students who receive instruction. Mr. Foster, the founder, employs 1,100 assistants, correcting papers, compiling textbooks, drawing diagrams, &c. Some 1,000 agents, who are paid by commission, seek out students. About 600,000 people have utilised the system. The fees are from 8*l.* to 18*l.* a course, which must be completed in five years. From October to June 68,000 papers are received every month. Similar schools exist in New York, Boston, Chicago and Pittsburg. The average age of the student is twenty-six years. With the correspondence institutions the students derive no help from public funds, and the large number utilising them is proof that the desire for education exists among the humbler classes, and they are willing to pay for any means which will dispel their ignorance.

It might easily be supposed that eventually the supply of trained men for the most important occupations will far exceed the demand for them. But a conclusion of that kind is based upon English experience. In our little island the openings for trained youths and men are limited. America is a vast continent in which fresh opportunities for skill are arising every day. Other countries also look to America for guides. Whatever may take place in the future, there is no doubt that at present the supply is not equal to the demand. Indeed, women teachers have to be substituted for men in many schools and institutions, for although men may be appointed they are always on the watch for other posts where the financial advantages are greater. One of the delegates was told by an American that he experienced no little difficulty in finding an office-boy, and unless among men who were subjected to trades unions, there is always a look out for chances of advancement. There is, no doubt, another side to the account, and so much intellectual striving may sometimes lead to unsatisfactory results. It is, however, better to rub than to rust, and anyone who considers the state of lethargy in which so many English workmen and others exist must desire that they should be able to imitate the exertions of the Americans to increase their knowledge and power, although the motive may be no higher than an increase of income. Who knows whether the report of Mr. Mosely's Commission may not arouse them to an increase of endeavour and a wiser employment of leisure?

BY-LAWS UNDER THE LONDON PUBLIC HEALTH ACT, 1891.

THE London Public Health Act gives to the London County Council and to the Metropolitan boroughs considerable powers of making by-laws with a view to insuring the cleanliness and sanitation of lodging-houses. All such delegated powers to legislate must be exercised in accordance with the principles of the common law, and if for any cause they are not so exercised the King's Bench Division of the High Court will pronounce them to be invalid. In this way an adequate security is provided for what a distinguished writer upon our constitutional law has called "the rule of law," and noted as an essential feature of the English Constitution. Certain recent cases have illustrated the extent and the principles upon which this control is exercised. In the case of Nokes *v.* Corporation of Islington (No. 1) the validity of a by-law made by the London County Council, under section 39 (1) of the London Public Health Act with respect to water-closet accommodation, was called in question. The by-law required the landlord or owner of a lodging-house to provide water-closet or other similar accommodation in the proportion of one such closet to every twelve persons occupying the house under a penalty provided by the by-law. In the cases of Stiles *v.* Galinski and Nokes *v.* Corporation of Islington (No. 2) the question arose as to the validity of by-laws made by the boroughs of Stepney and Islington under section 94 (1) of the same Act, requiring the landlord of a lodging-house to cause every part of the premises to be cleansed, and the area and the interior surface and every wall and ceiling to be lime-washed during the first week in April. The only difference between the by-laws in these two latter cases was the fact that in the first case the "landlord" was defined to be the person who received or was entitled to receive the rack-rent of the premises; in the second case the landlord was defined to be the person by whom the house or any part of it was let, or the person who received or was entitled to receive, whether on his own account or on behalf of another, the profits arising from the letting. In all these three cases the by-laws were held to be invalid upon the ground of unreasonableness because no provision had been made by them for giving notice to the landlord of the infringement of the by-law. In the two latter cases Wills, J., dissenting from Alverstone, C J., and Kennedy, J., considered that the obligation to do the work in the first week in April was an additional ground for holding the by-law to be unreasonable. Such cases are difficult to decide. They involve many different and sometimes conflicting considerations. On the one hand, a discretion given to a local authority by the Legislature should not be lightly interfered with, and the more so where the by-law is designed, as Kennedy, J., well said, to protect "the health of the helpless." On the other hand, all must recognise the sound sense of the remark of the Lord Chief Justice that "where a by-law imposes a liability on a landlord . . . where there are persons who are or may be under a contractual obligation towards the landlord to carry out the requirements of the by-law, the landlord himself ought not to be made liable for a breach of the by-law without first having notice that the by-law has not been complied with." Nor is it any defence to say that, though the by-law might be harsh in its operation if applied in all cases in which it might be applied, yet the local authority can be trusted to apply it only in suitable and necessary cases. Most of us will share the dislike of Wills, J., to legislation "which is felt to be so unfair if universally applied that it can only be justified by saying that in particular cases it will not be enforced," and will think with him that this "is as bad a ground for defending legislation as one could well have.

The moral seems to be that such by-laws should be more carefully framed. It is no doubt difficult to frame any law so carefully that the liability intended to be imposed falls without possibility of evasion upon the right person. The attempt must, however, be made; and recorded cases show that the Courts are ready to support the efforts of local authorities to carry out the intentions of the Legislature for the promotion of the health of the community. But local authorities must remember that, though it may be necessary to frame a by-law widely in order to prevent its evasion, there is a difference, which the Courts have always been quick to mark, between a rule which is comprehensive and a rule which is unjust. The very comprehensiveness of the rule makes it all the more necessary to see that those who are included within it shall be given every chance of complying with it before they can be convicted of its breach.

LIVERPOOL ARCHITECTURAL SOCIETY.

THE annual report of the Council of the Liverpool Society states that the fifty-sixth session has been chiefly remarkable for the increase in numbers of the junior members of the Society. The Fellows now number fifty-four, as against fifty-one last year. The Associates have increased to fifty-nine from fifty-seven, the students to thirty-six from thirty-one, and the honorary members are now fourteen against fifteen, making a total of 163.

The Council regret to record the death of Mr. James Rhind and Mr. J. H. Cook. The latter has been much missed from the meetings, at which he was a regular attendant, and his early death has brought to a close a most promising career. The Society and Council have lost the services of Professor Simpson, who has gone to new duties in London. For the last nine years he has taken a very active interest in the management of the Society. During the whole of that time he was on the Council, and for a considerable portion of it was hon. secretary and president respectively. The Council trusts that he will still on special occasions come down to the meetings, and that he will find his new work and surroundings as congenial as the old.

The librarianship has again changed hands. Mr. A. G. James, who effected various improvements during the few months that he was in charge of the books, left the neighbourhood at Christmas. Since then Mr. L. P. Abercrombie has taken on the duties, and it is to him that the success of the Wednesday réunions is due. Mr. T. E. Eccles has been appointed joint representative of the Society on the board of architecture of the University. Professor Simpson's seat on the Council has been filled by the translation from Associate to Fellow of Mr. Arnold Thornely, and Mr. B. M. Ward has taken Mr. Thornely's place. The University of Liverpool is to be doubly congratulated: firstly on attaining to the dignity of a university, and secondly that in Professor Riley it has secured such a highly qualified successor to Professor Simpson. The new Professor, who has already been at one of the meetings as visitor, will, we trust, often be seen and heard in future sessions.

A letter was received during the session from the Society of Whitesmiths, asking that in specifications it should be clearly stated what work should be done by whitesmiths and what by engineers. Their Society considers that too much plumbing is being done by engineers to the detriment of good work. The Council did not think that this was a matter in which they could interfere.

After some preliminary correspondence a deputation from the Master Builders' Association met the President, Mr. Thicknesse and Mr. Culshaw, with reference to the growing custom of specifying that builders must include in tenders a sum for attendance on work to be done by specialists. They stated that the architect was in a better position for estimating the cost of attending on specialists, and it would be mutually fairer for him to state a sum, instead of leaving the amount to be guessed at by the builder. The Council agreed that this was reasonable, and they hope that members will see their way to follow this suggestion.

There has during the session been great difficulty in getting members to read papers. After much correspondence and many interviews evenings and subjects were arranged for five members; three of these eventually postponed their papers till next winter. This diffidence may be partly accounted for by the unusual quality of the papers by visitors. Five gentlemen and one lady have been down from London, and to all of them our thanks are due for exceedingly interesting lectures. The meetings were well attended, and the lecturers were highly gratified by their reception. On two occasions the Incorporated Law Society lent the use of the board-room for refreshments and the library for the meeting. We are much indebted to them for this courtesy and also for the generous way in which they papered and painted the architectural room.

NATIONAL PORTRAIT GALLERY.

THE trustees of the National Portrait Gallery have made the following acquisitions since the beginning of the present year:—

The trustees have received by bequest from the late Mr. Herbert Spencer a portrait of himself, painted by J. B. Burgess, R.A., and a marble bust of himself, by Sir J. E. Boehm, R.A.

The trustees have received and accepted the following portraits as donations:—

David Lucas, the mezzotint engraver, drawn by T. Hunn after a portrait by John Lucas—presented by Mr. E. E. Leggatt.

Right Hon. William E. H. Lecky, O M., a terra-cotta bust, modelled by Sir J. E. Boehm, R.A.—presented by his widow.

Thomas Carlyle, a cast taken from the face after death by Sir J. E. Boehm, R A.—presented by Mrs. Lecky.

Gilbert Abbott à Beckett, the comic writer and police magistrate, a miniature portrait—presented by his son, Mr. Arthur à Beckett.

The following portraits have been purchased by the trustees:—

Sir Thomas Roe, diplomatist, traveller and explorer under James I. and Charles I., painted by Michiel Jansz van Miereveldt.

John Quick, the comic actor, painted perhaps by W. Score.

Catharine Macaulay (Mrs. Graham), the historian, attributed to Angelica Kauffmann, R.A.

Charles, second Viscount Townshend, K.G., statesman and diplomatist in the time of George I. and George II., painted probably by Sir Godfrey Kneller—purchased at the sale of the Townshend heirlooms.

George Colman, the elder, the dramatist, painted by Sir Joshua Reynolds, P.R.A.—purchased at the Huth sale.

Sir Isaac Newton, painted as a young man, and attributed to Robert Walker—purchased at the Huth sale.

Charles Mordaunt, third Earl of Peterborough, K.G., the famous admiral, general and diplomatist, attributed to Sir Godfrey Kneller.

George Gordon, Lord Byron, the poet, a marble bust, executed by Bartolini of Florence, at Pisa, in 1822.

Sir Charles James Napier, G.C.B., the conqueror of Sind, a sketch in oils by Edwin Williams.

William Etty, R.A., painted in oils by himself.

John Gibson, R.A., and David Roberts, R.A., companion tinted drawings by Henry Hoppner Meyer.

John Sell Cotman, the painter, a tinted drawing by Horace Beevor Love.

TESSERÆ.

Greek and Etruscan Vases.

THE painted vases manufactured at the Athenian or other potteries were applied to various uses. They were used everywhere by the rich as ornaments to rooms, gardens, &c.; they were deposited in temples as gifts to the gods, and then named votive vases; they were carried in religious processions, or used to hold lustral water, consecrated wine, oil, or the blood of a sacrifice. Sometimes they were given as presents to a friend or lover, or to a newly-married couple; and on some vases still remaining that seem to have been used for this purpose we read such inscriptions as "The beautiful girl"—a phrase evidently a compliment to the receiver of the gift. At Athens the oil which it was customary to give as a prize to the winners in the Panathenæ, or great games of Athens, was usually contained in a painted vase; and on vases so used we now read the inscription, "From the games at Athens." Finally, it was a custom in Etruria and the Greek parts of Italy and Sicily to bury such painted vases with the dead; and hence in these countries the demand for vases would be more considerable than in others. What was the meaning of this custom is quite unknown. From the multitude of vases that have been found, with paintings representing subjects connected with the Bacchic or Eleusinian mysteries, it was at one time supposed that they were deposited only in the graves of persons who had been initiated in these mysteries; but this supposition was soon abandoned as untenable. All that can be alleged with certainty is that the burial by Etruscans and others of painted vases and other articles of value with the dead was a custom founded on some peculiar mode of thinking with respect to the state of existence and the requirements of the body after death. That articles of food were sometimes deposited with the bodies is proved by the fact that eggs have been discovered entire in Etruscan tombs, where they must have lain for nearly 3,000 years; and it is possible, therefore, that the vases found in the tomb may at one time have been full of oil, wine, or other liquids. Whatever was the meaning of the practice of placing painted vases in tombs, it is evident that most of them had been in use before in the household of the deceased. Hence it is that so many vases have been found in the tombs of Italy and Sicily bearing inscriptions which imply that they were given as prizes at the Athenian games, &c. Sometimes the vases to be buried were likely to be selected by the dying person. Thus, on one of the vases in the British Museum there is an inscription in Greek to the following effect:—"My dear Phile, adieu! This vase to be placed in the second sepulchre."

St. Paul's and St. Peter's.

The justice which guides us in affording the palm of beauty to the exterior of St. Paul's also compels us to acknowledge the superior grandeur of the Roman interior. At the same time this superiority is more conspicuous as it regards material and decoration than mere architectural character. The style of the vaulting in the nave and choir of St. Paul's (composed, as it is, of segmental domes upon pendentives) is certainly more beautiful, and admits a far more correct means of affording light than the plain cylindrical ceiling of St. Peter's nave, the windows of which are too like those of our common English garrets. The height and diameter also of St. Paul's dome exhibit a happier relative proportion than is the case in that of St. Peter's, the great height of which takes from the effect of its horizontal expanse. The more open perspective of the side aisles in our cathedral is likewise far preferable to the arch-and-window screens which encumber the corresponding aisles of the papal building. The ruling defects of St. Paul's interior are the maimed and distorted character of the arch-work supporting the dome, and the omission of the architrave and cornice over the arches of the nave and choir. The idea of preserving the perspective of the side-aisles through the entire length of the cathedral was excellent, but if it could not be followed without committing such a complicated offence as the double arches, which (with their many evil concomitants) appear in the diagonal compartments of the octagon below the whispering gallery, it should have been at once unhesitatingly abandoned. The pedestal range which surmounts the order of the nave had been better placed under the order. In this case the frieze and architrave might have exhibited (as in St. Peter's) a pleasing continuity, instead of being most illegally interrupted to make way for the archivolts. It may also be said that the nave is wanting in height and width, but this would have interfered with the plan of "preserving the perspective of the side aisles." With regard to any further comparison between these churches than that of beauty as developed in mere architectural form it must be made incontestably in favour of St. Peter's. The respective merits of Wren and Buonarotti, or, we may rather say, the essential worth of their designs if criticised in reference to circumstances, and contemplated with such single-purposed judgment as we should award to a pair of rival plaster-casts, would afford a decision upon the whole favourable to England, but the gigantic magnitude, the marbles, mosaics, gilding and painting of the Italian temple render any further parallel between the buildings perfectly ridiculous.

Ancient English Churches.

In the first centuries of English Christianity there were in use two distinct types of plan—the monastic, introduced by the Italian missionaries, and being a copy of the Italian basilica, and what we may call the secular, used by the people generally, and being a continuation of the British type. It is natural that as time went on there should have been some mixing of the two types. The original British plan was not adapted either to the accommodation of any considerable number of people, or to any sort of architectural display, and whilst it continued in use for small churches, when larger ones were wanted their builders borrowed the wide transverse arches and sometimes the apsidal end from the basilica. This mixed type was not probably in use earlier that the tenth century. Transepts were added to it very timidly at first, but by the middle of the eleventh century we find regular cross churches, with central towers, as at Stow, Dover and Stanton Lacy. Aisles were borrowed from the basilica, and are not found in any secular church earlier than the Conquest. The middle of the eleventh century was the beginning of a new architectural era in England. Even before the coming of William and his followers the Norman style had made its appearance here and brought with it a new set of traditions, which completely supplanted the old, so far as the monastic type of church is concerned. Before the end of the twelfth century, besides the foundation of a large number of new ones, every cathedral and abbey church in the land was rebuilt on a plan which, although it may be remotely derived from the basilica, is quite different from anything to be found here in what are called Saxon times, and is not in any way descended from it. But the secular type of church survived the Conquest as it had done the earlier one, and in spite of the change in architectural style, continued to rule in parish churches. Nearly all old parish churches which do not contain remains of pre-Norman work can be traced back to rebuilding in the twelfth century. Small churches of this date, with the plans practically unaltered, are not uncommon.

Kait Bey's Mosque, Cairo.

It is in the buildings erected by the Sultan Kait Bey during the latter half of the fifteenth century that both the pure Arabesque and the finest geometrical ornament are seen in their perfection. This prince of Cairo builders allowed no portion of his edifices to be neglected, and the countless ornaments which were lavished upon his mosques and other erections were all cut in good limestone or marble. The arch of the sanctuary in his mosque *intra muros* is a good example of the richness of this ornamentation. It is about 30 feet from the floor to the keystone, and is placed in a square wall about 39 feet high. Nine courses of plain stone, alternately coloured red, form the pier of the arch, on which is a capital formed of three tiers of stalactites. From this the arch springs with a slight projection beyond the capital, owing to its incurved horseshoe form. The arch is formed by twenty-three courses of stone on either side, alternately red and white, and a red keystone. Each of the white stones is carved with arabesque and geometrical patterns arranged alternately. The arabesques are of a prevailing type, consisting of a trefoil or fleur-de-lis surrounded by leaves very beautifully interlaced. The design is, however, varied, and it is doubtful if any two stones would be found to tally exactly. The geometrical patterns consist of interlacing lines, forming irregular pentagons and hexagons, with little apparent regard to symmetry, though they are all related to one another in the general plan. The arch is enclosed in a raised moulding which forms a loop at the top, in which is carved a whorl of eight rays. The spandrels of the arch are filled with a bold arabesque design enclosed in trifoliate borders, and in the centre of each is a circular medallion inscribed with the name and titles of the Sultan and a prayer for his success These medallions are frequently seen in Cairo, and are generally filled with the name of Kait Bey, though other sultans adopted the same method of putting a seal on their works.

Idiosyncrasy in Colour and Form.

The aspect under which we view things is often intensely personal, nay, even awfully so considering that from the nature of the case it does not bring home its idiosyncrasy either to ourselves or to others. Each of us looks at the world in his own way, and does not know that perhaps it is characteristically his own. This is the case even as regards the senses. Some men have little perception of colours; some recognise one or two; to some men two contrary colours, as red and green, are one and the same. How poorly can we appreciate the beauties of nature if our eyes discern on the face of things only an Indian-ink or a drab creation. So, again, as regards form; each of us abstracts the relation of line to line in his own personal way, as one man might apprehend a curve as convex, another as concave. Of course, as in the case of a curve, there may be a limit to possible aspects, but still, even when we agree together, it is not perhaps that we learn one from another or fall under any law of agreement, but that our separate idiosyncrasies happen to concur.

Theory and Practice.

In ordinary minds, associations of ideas, if firmly established, become indissoluble, and the power of separating them and of arranging them in new combinations is one of the rarest of our endowments. An average intellect, when once possessed by a theory, can hardly ever escape from it. Hence in practical matters theory should be feared, just as in scientific matters it should be cherished, because practical pursuits are chiefly engrossed by the lower class of minds, where associations and the force of prejudice are extremely strong, while scientific pursuits concern the higher class, where such prepossessions are comparatively weak and where close associations are more easily severed. The most powerful intellects are most accustomed to new arrangements of thought, and are therefore most liable to break up old ones. On them belief sits lightly, because they well know how little evidence we have for many even of our oldest beliefs. But the average, or, as we must say, without meaning offence, the inferior minds, are not disturbed by these refinements. Theories which they have once heartily embraced they can hardly ever get rid of, and they often dignify them with the name of essential truths, and resent every attack upon them as a personal injury. Having inherited such theories from their fathers they regard them with a sort of filial piety, and cling to them as if they were some rich acquisition which no one has a right to touch. To this latter class nearly all men belong who are more engaged in practical pursuits than in speculative ones.

NOTES AND COMMENTS.

It was decided in the case of the Harrogate Corporation *v.* Dickinson that the question, whether a plan, showing a number of proposed buildings, is in substance one plan or a number of distinct plans of the several buildings, is a question of fact. The Harrogate Corporation Act, 1893, enacts that the deposit with the Corporation of any plan of street or building shall be void if the execution of the work specified in the plan is not begun within three years from the date of the deposit. The defendant in 1894 deposited a plan showing eleven houses numbered 1 to 11, and two stables and coachhouses. He completed some of the buildings within the required time. Two of the other buildings were begun after the required period and were passed by the surveyor. He began to build the second stable and coachhouse in 1902 in accordance with the original plans. These plans did not comply with new by-laws made in 1901. It was decided that he could be forced to discontinue the work on the ground that more than three years had elapsed since the deposit of the plans. The Court of Appeal declined to interfere with the finding of Wright, J., that in this case the deposited plan was in substance several plans. At the same time, the Lord Chief Justice admitted that other cases might arise in which the plans of several buildings would be in substance one plan, and where, in consequence, the fact that a beginning had been made upon some part of the plan within the required time would give a right to proceed.

Although St. Louis is far from Paris, several French artists have decided to send examples of their work to the international exhibition. The difficulties of transit have to be considered, and therefore some very large but important pictures will have to be kept back. M. Besnard has prepared a decorated frieze for the French section, but with that exception the majority of the 416 paintings and designs are known to the visitors of the rival salons. M. Roll's *Dentellières* obtained the médaille d'honneur two years ago. Another well known work is M. Detaille's *Cavalry Reconnaissance in* 1809, one of his illustrations of the Napoleonic epoch. M. Jean Béraud gained reputation by his scenes from everyday life in Paris. His *Christ* was an effort to exalt our time by suggesting a relation between the city and Jerusalem. It made a great impression, but as it is to go to America apparently it did not find a purchaser. M. Carolus Duran's vigorous *Death of Christ* is another example of a work which was a surprise. There will be 141 examples of sculpture, including a bust by Mme. Sarah Bernhardt. About 200 engravings and drawings will also be sent.

The "Wanderjahre," or period of travel, is so closely associated with German life in reality as well as in poetry, it is remarkable how few are the bourses which are available for young architects who wish to extend their knowledge, but are not able to meet the cost of a long journey. One of the value of 2,900 marks is about to be competed for. The money was left by Louis Boissonnet, and is at the disposal of the Prussian Minister for Education. The competitors will have to submit drawings and descriptions of some of the Romanesque works in Hildesheim. Compilations from other descriptions will not be acceptable. The competitors must have studied for a time in the Building Academy or the Technical High School, and must produce testimonials of their practical and literary ability. In Germany there is an official course which it is advantageous to follow, and care is taken whenever it is possible to limit opportunities for advancement to those who have not deviated from the path which is staked out by the authorities. Such an occasion as is offered by the Boissonnet competition it might be supposed would be utilised to compare the merits of students who were taught in State schools with those who were trained in a different way, but apparently the authorities have some misgiving about the result if the contest were general.

"Better late than never" is likely to be the exclamation of German archæologists when they hear of the instructions to contractors for military works, and in which respect for relics of antiquity is commanded. The classes which come under protection are the following :—Monumental works in stone or earth, graveyards, graves in rows, burial urns, graves of Wends, Huns or so-called giants' graves, sites of colonies, ancient walls, fortifications, entrenchments, pile-buildings, timber bridges, pottery, weapons, implements of stone or metal, objects in glass, amber or other materials belonging to Roman, heathen or intermediate periods. When any relics are discovered information is to be at once given to the official who has charge of the works. The contractor will be held responsible for the safety of whatever is discovered and care is to be taken that their character remains unchanged. The sale of any is strictly prohibited.

It was announced that the plans for rearranging the open spaces of the district in which the Eiffel Tower has stood were based on the supposition that the tall structure of 1,000 feet should be removed. The civil engineers of France put in a plea for its retention on the ground that it could be utilised for several scientific purposes. The Minister of War next made a claim for it, believing that it was adapted to serve as a military station for receiving and sending despatches if wireless telegraphy could be sufficiently perfected for that purpose. M. Eiffel, who naturally is anxious to see an example of steel construction which he had designed and which brought him fame and profit still dominating Paris, has not been inactive. He has offered to pay all the expenses which may be incurred in adapting the tower to serve as a telegraph station, and the Minister of War has accepted the offer. As a preliminary an office is in course of erection, and experimental communications will be exchanged with stations in the neighbourhood of Paris. Afterwards much longer distances will be tried.

Anyone who followed the succession of projects relating to Richmond Hill must have felt disposed to exclaim, "The cry is still they come." Again and again subscriptions were sought and efforts made to secure the preservation of the view. But in a short time a new demand was made, and generally the latest appeared to be the most oppressive. On Tuesday evening the Town Council were called upon to consider plans for the erection of a block of seven-storeyed flats on land adjoining the Star and Garter hotel. The plans faithfully respected the by-laws, and under ordinary circumstances should be approved. It was found there existed a difference of opinion among the members, for while some considered the plans would be destructive of Richmond Hill as seen from certain positions, other members were of a different opinion. Eventually it was decided that the consideration of the plans should be postponed, and that meanwhile an effort should be made to have the height of the building diminished. That, of course, means that the projectors are acting within their rights. If the hotel and the house which Sir William Chambers designed for Sir Joshua Reynolds are allowed to exist without any demurring, it seems hard that an intervening building should be prohibited. In all such cases local authorities should protect their towns by seeking powers which would prohibit the introduction of features that would be considered as destructive of local amenity. The rights of the proprietors of any ground that would be preserved could be arranged for on equitable terms.

ILLUSTRATIONS.

DENMAN HOUSE, PICCADILLY.

PREMISES, GREAT SMITH STREET, WESTMINSTER.

THE TREASURER'S HOUSE, YORK.—TAPESTRY DRESSING-ROOM—PRINCESS VICTORIA'S ROOM.

CATHEDRAL SERIES.—CHESTER: THE SEDILIA—READER'S PULPIT IN REFECTORY.

OXIDE OF ZINC AS A PAINTER'S MATERIAL.[*]

THE subject of white paint is one that must always appeal to the practical painter and decorator, inasmuch as probably three-fifths of the painting work executed by him is in white or in some light tint obtained by staining a white base. It would be impossible within the limits of a paper like the present one to discuss in anything like a satisfactory manner he whole range of white paints. I shall therefore confine my remarks on this occasion to a single pigment, oxide of zinc, which constitutes the base or pigmentary principle of an ever-increasing proportion of the white paint of commerce. I would ask you in passing to note that I prefer to designate the pigment by its full descriptive title "oxide of zinc" rather than by the vaguer and more general name "zinc white," because the atter term may be correctly applied to another pigment otherwise described as "sulphide zinc white," which is also the pigmentary base of many tons of white paint manufactured and used at the present time.

I always regard oxide of zinc as an unfortunate material. Through no apparent fault of its own it is constantly being made the subject of the most severe condemnation, or is having ts virtues extolled with an exuberance of imagination that might well change the virgin pallor of its countenance to a vivid crimson. In discussing the relative merits of oxide of inc and white lead, for example, the disputants in many cases—I may say in most cases—lose sight of the main issue, the consequence of which is that after a soul-stirring argument we are eft in precisely the same advanced state of knowledge as before.

What is the attitude of the painter to-day towards oxide of zinc? As a rule if one mentions oxide of zinc (from the point of view of a painter's pigment) to a painter he at once assumes a hostile attitude. He tells you that zinc white is a very nice and a pretty pigment, but that it is totally useless for painting; that it possesses no body; that it is very expensive; in short, hat it is a fancy article entirely beneath his notice.

Is this view justified? Should oxide of zinc really be regarded as a material whose value to the painter is practically nil? Or are the views that I have just referred to the outcome of an mperfect knowledge of the properties of the material, and of an erroneous judgment as to its capabilities if used with due regard to these special properties?

Thirty years ago, when paint materials were used in much maller quantities than at the present time, commercial white ead was a product which on the average differed very coniderably from the material sold under that name to-day. Well-authenticated analyses and records prove that conclusively. Originally painters' white lead consisted exclusively of genuine stack-made white lead, ground in refined Baltic oil. Not only was the white lead manufactured exclusively by the tack process, but the grinding in oil was carried out in a more thorough manner than is possible under modern conditions—that is to say, it was ground less hurriedly but more ffectively. In saying this I would ask you to bear in mind hat I do not wish you for one moment to imagine that I am uggesting that the ground white lead turned out to-day by our leading lead houses is indifferent in quality, or is imperfectly ground, because this, I know, is not the case, but I do say that the quantity of properly prepared white lead that s nowadays offered to the painter and decorator forms but a mall proportion of the total. In short, the tendency during the last thirty years has been for white lead to deteriorate in quality.

On the other hand, during the last thirty years oxide of inc as a painter's material has improved in quality. Greater ttention has been paid to the manufacture; greater experience nd skill have been brought to bear on producing an article uited to the painter's requirements, and, consequently, the painter who wishes to intelligently compare oxide of zinc with white lead must disabuse his mind of the idea that the lead in ogue thirty years ago is in general use to-day, and he must ompare the two materials strictly with regard to their present properties and composition. Let us view briefly the nature nd properties of oxide of zinc.

I suppose we are all familiar with the peculiarly white, attractive appearance of dry oxide of zinc. The sample which ou see before you represents the pigment as it is found in commerce. You will observe the snow-like appearance of the material when I burn near it a piece of magnesium wire. This purity or cleanness of hue is one of the most characteristic properties of oxide of zinc of good quality. It affects not only a white painted surface but also a tinted one. That is to say, tints or shades made by staining oxide of zinc with some taining colour are purer and cleaner in tone than the correponding tints or shades obtained from a lead base.

Oxide of zinc is fortunate in being described by a name that briefly and correctly expresses its chemical composition. It is, in fact, an oxide of zinc, that is to say, a compound of the metal zinc and the gaseous element oxygen. The simplicity of its constitution, taken in conjunction with the fact that it is produced at a high temperature by the burning or roasting of the metal zinc or its ores, partly explains the remarkable stability of the pigment and its unalterability under many conditions that would seriously affect the stability of other pigments.

Paint is exposed to many destructive influences, some physical, some chemical. It is only a matter of common-sense reasoning to conclude that those pigments that best resist such influences will, other things being equal, make the best and most durable paint. If considered from this point of view, oxide of zinc is worthy of a high place in the list of paint pigments. Oxide of zinc, whether dry or in oil, always remains oxide of zinc of the composition I have indicated. White lead is extremely liable to change in composition. New dry white lead has a different composition from that of the sample after six, nine or twelve months. It changes still more when ground in oil. Now all such changes must necessarily cause strains and stresses in the paint film, and must lead ultimately to its fracture and destruction.

Oxide of zinc is practically without action on linseed oil, therefore when it is ground in that medium the conditions that obtain cannot be compared with those that exist in the case of white lead. The drying of paint made from oxide of zinc is due entirely to the siccative nature of the oil itself in which the oxide of zinc may be considered as mechanically suspended. We have here a state of things more readily under control than is the case with white lead paints in which the powerfully siccative action of the hydrate portion of the white lead often proceeds too far. The oil is then burnt up (so to speak), the paint perishes and "chalking" results. Besides being stable in itself, and without action on linseed oil, oxide of zinc possesses the further advantage that any pigment whatsoever may be mixed with it without fear of secondary reactions being set up. Finally, oxide of zinc is far less liable than white lead to be acted on by the chemical and physical destructive agents usually described as atmospheric influences. This I have proved from my own observation to be the case, and others who have investigated the matter have arrived at the same conclusion. Moisture and extremes of heat and cold are, as a rule, better resisted by zinc paints than by lead paints. The traces of mineral acids found in the air of towns have less corrosive action on oxide of zinc than on hydrated carbonate of lead. In order to prove this I have examined boards and sheets of metal painted with various paints and exposed to the air in London, Glasgow, Wigan and Cardiff. In several cases I found that paint films composed of white lead and oil were practically honeycombed by the corrosive acid in the air acting on the small pigmentary particles of white lead. This result is not always apparent to the naked eye, but can be detected by microscopical examination. Sea air and salt water have a peculiarly severe action on most paints, partly owing to the extreme humidity of sea air at certain times of the year and to extreme variations of temperature, and partly owing to the abnormally oxidising effect of warm sea air on drying oils. The saline constituents of sea air, and still more of sea water also, exercise a noticeable effect on the metallic constituents of paint. White zinc and white lead paints have been tested side by side under similar conditions in these respects, and results go to show that when properly mixed and applied white zinc paints last longer and give better protection than white lead paints.

I should like to say in this connection that I do not wish to be understood as advocating the substitution of oxide of zinc for white lead for every coat of paint applied on work of the nature I have just indicated. On some surfaces priming coats of white lead followed by finishing coats of oxide of zinc yield the best results. It is just as incorrect to say that zinc paint is always better than lead paint as it is to say that the latter material is always better than zinc paint.

One of the arch-enemies to lead paint is sulphur. Sulphur is present in the air of all towns and manufacturing centres, either in the form of acid (which I have already referred to) or as sulphuretted hydrogen. White lead is peculiarly liable to attack by this compound with formation of black sulphide of lead. The discolouration of lead-painted surfaces is usually due to the formation of this black sulphide of lead, and a very small quantity of the gas is sufficient to produce a marked discolouration. Zinc white paints are not exposed to this danger. In the first place, sulphuretted hydrogen gas has exceedingly little action on oxide of zinc when suspended in oil in paint, and, secondly, if any action does happen to take place, there is no darkening in colour because the sulphide of zinc, which will be produced if any action takes place, is also white.

Everyone is familiar with the loose flocculent texture of oxide of zinc. It is a loose powdery pigment, occupying when packed in the ordinary way a large volume relatively to the weight of dry material. I have here a rectangular keg which represents with tolerable accuracy the volume occupied by 112 lbs. of dry oxide of zinc. This other keg represents the volume occupied by the same weight of dry white lead. Note the difference. The relative weight of density of these two pigments is apparently all in favour of the white lead. Seeing this and nothing more, the painter condemns oxide of zinc as a light material—"it lacks density and body," he says, and so on. I believe that this misconception (for that it is a misconception I hope to be able to show you) is at the root of many of the erroneous statements made regarding oxide of zinc.

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[*] A paper by J. Cruickshank Smith, B.Sc., F.C.S., read before the Incorporated Institute of British Decorators.

Let us pursue the matter a little further. I have here another pair of kegs. One represents the volume of 112 lbs. of paint made of oxide of zinc ground in linseed oil, the other the volume of 112 lbs. of ground white lead. Although the balance is still in favour of the white lead, there is not nearly the difference in volume that is observable when we compare the two dry pigments. I therefore invite you to accompany me one stage further still.

If we compare the weights of equal volumes of oxide of zinc and white lead under conditions that permit of the elimination of errors—in other words, if we determine with scientific exactness the specific gravities of these two pigments—we find that the specific gravity of dry oxide of zinc is practically the same as that of white lead. This may seem a startling statement, but it is none the less perfectly true. Oxide of zinc in powder possesses the property of enclosing between its particles a very large volume of air, and consequently the apparent volume occupied by a known weight of dry oxide of zinc is in reality the combined volumes of oxide of zinc and air.

I have performed a number of experiments in connection with this subject, details of which you will find in Table 1. You will see that commercial oxide of zinc possesses a specific gravity of 5·6, that is to say, it is approximately 5½ times heavier than water. Commercial white lead possesses on the average about the same density. It is true that white lead perfectly free from water and of the very highest grade, manufactured by one of the leading houses by the English stack process, has been found to possess a specific gravity of 6·6. This, it is needless to say, is a figure that represents a product deserving of the highest praise, but you may take it, I think, that a comparatively small proportion of the white lead used in ordinary painting work is manufactured from a dry material possessing anything like this specific gravity.

We see, therefore, that oxide of zinc is not a light pigment at all, unless we include in the term "light" white lead, barytes, oxide of iron and other pigments. A minute pigmentary particle of oxide of zinc weighs just as much bulk for bulk as a minute pigmentary particle of white lead.

Let us turn for a moment to the question of the body and covering power of oxide of zinc. The terms "body and covering power" are often used so vaguely and indefinitely that it is necessary for us to understand exactly what we mean when we use them. I define body, which I prefer to call opacity, as the degree in which the same weight of different pigments mask or obscure equal areas of similar surfaces. There is no absolute measure of opacity. It is a comparative term merely, but for the sake of convenience a standard may be taken, this being usually white lead.

Covering point, which for the sake of definiteness I prefer to call "spreading power," is the area which similar weights of different paints ready for the brush cover when evenly applied under the conditions of actual work.

Now the painter, in using these two terms "opacity" and "spreading power," very frequently does so forgetful of the essential fact that the term "opacity" refers to the dry pigment, and the term "spreading power," or "covering power," refers to the mixed paint. In comparing opacities, also, he usually compares not the opacities of the pigments, but the opacities of the paints, which is a very different thing. I conclude from numerous experiments that the opacity of dry oxide of zinc is 20 per cent. less than that of white lead. This is to say, if we represent the opacity of dry white lead by 100, the opacity of dry oxide of zinc is represented by 80. Since the opacities vary inversely as the weights of pigments required to mask similar areas to the same degree, this means that one-fourth more by weight of oxide of zinc than of white lead will be required to mask a given surface to the same extent. The relationship is expressed thus, where W is the weight of the standard and X that of the pigment under comparison :—

$$\frac{100}{80} = \frac{X}{W}$$

$$X = \frac{100\,W}{80} = 1\tfrac{1}{4}\,W$$

But I have also found that while this is true when we compare small quantities of pigment much diluted, and spread over a comparatively large area, it ceases to be true when the respective pigments are applied in fairly heavy coats, and the relation is quite incorrect in the case of second and third coats. In order to present these facts to you in a tangible manner, I have had two boards painted, one with oxide of zinc and the other with white lead. The boards have been painted in such a manner that you see strips representing one, two and three coats respectively on each. The difference in opacity in the case of the one-coat strip is striking, in the case of the two-coat strip the difference is less, while the two three-coat strips mask the black ground practically to the same extent.

We cannot discuss the question of opacity from a practical point of view for long before we find it to be closely bound up in the question of spreading power. Let us therefore turn to this subject for a moment. On Table 2 you will find details of the covering or spreading power of various typical paints. These figures have been carefully compiled by Mr. George H. Hurst. Most of them have been checked by myself, and my results are so nearly in accordance with Mr. Hurst's that I have preferred to place before you his results in their entirety.

Let us assume that a painter has been comparing the merits of white lead and oxide of zinc, and that he has applied paints made from the respective pigments on wood and on plaster. Let us assume that his results accord with those of Mr. Hurst, and that he finds that 10 lbs. of white lead paint cover 221 square feet on wood one coat, and that 10 lbs. of oxide of zinc paint cover 378 square feet on wood one coat. The painter will no doubt acquiesce in the statement that the covering or spreading power of the zinc paint is better than that of the lead paint, but he will in all probability at once condemn the zinc paint owing to the fact that the surface coat with the paint is less effectually "hidden" or "masked" than the surface coated with the white lead paint. But let him consider for a moment.

The 10 lbs. of zinc have been spread over an area that would on his own showing have received 17·1 lbs. of white-lead paint, or, to put the matter in another way, the paint on 221 square feet of lead-coated surface weighs 10 lbs., while that on 221 square feet of zinc-coated surface weighs only 5·8 lbs.

Similarly in the case of the plaster wall: 10 lbs. of lead paint cover 362 square feet, and 10 lbs. zinc cover 594 square feet. That is to say, 10 lbs. of zinc paint are being asked to do the work that would be done by 14 lbs. of lead paint, or, to put it the other way round, 7 lbs. of zinc paint are being used on 362 square feet, which, if coated with lead paint, would receive 10 lbs. It is small wonder, then, that when comparisons are made under such unequal conditions the results arrived at are erroneous, and yet it is from statements based on such incorrect experiments that many of the painter's views concerning oxide of zinc are derived.

I have already shown you that the specific gravity or density of oxide of zinc is practically the same as much of the white lead of commerce. I have also pointed out that the fancied inferiority in the opacity of oxide of zinc and the consequent neglect of the pigment as a painter's material are largely matters of misapprehension. You may justly ask me in what way paints made from oxide of zinc and white lead respectively should be compared, so as to give each an equal chance, so to speak.

To place the two on equal terms, the same weight of each pigment must be spread over the same area. Now it is obvious that this resolves itself practically into a question of paint mixing. Make the white lead paint more fluid so that it will spread out more, or make the oxide of zinc paint less fluid so that it will spread out less. It is hardly necessary in an assemblage of painters to remark that this procedure is admissible only within limits. Paint can only be thinned with due regard to the limitation set by its mode of application by manual labour with a brush.

The problem is therefore to modify the thinners so that more pigment may be introduced relatively to the quantity of thinners without causing the paint to become unworkable. For a paint manufacturer to offer dry zinc paint or even zinc white ground in oil to the painter, and leave him without information as to how to convert it into workable paint, is, I venture to submit, neither reasonable nor businesslike.

By reason of a happy combination of circumstances white lead ground in oil is capable of being transformed into a workable paint simply by the addition of drying oil and a volatile spirit. No other pigment is capable, without special preparation, of being treated in this simple manner, and I hold strongly to the opinion that the problem of thinning paint for use is one that belongs to the province of the expert paint manufacturer. To send out to painters and decorators without a word of warning or advice as to thinning and mixing, oxide of zinc ground to a stiff paste in refined linseed oil is, in my humble opinion, simply to court disaster, and to put a weapon into the hands of those who are only too ready to condemn anything and everything that partakes of novelty or progress. When a painter uses white zinc at all, he naturally thins it in the same manner in which he has been in the habit of thinning white lead, namely, with raw linseed oil and turpentine. Is this the method of thinning best calculated to bring into prominence the special properties of the pigment? I doubt it. Raw linseed oil is used with white lead chiefly on account of the drying action of the white lead itself, which has to be kept within bounds by the use of as mild a form of drying vehicle as possible. With oxide of zinc, however, a more powerfully siccative medium is not only permissible but necessary. To increase the drying action of the medium by cramming in patent driers or terebine in the one case to reduce the opacity and wearing properties of the paint, and in the other to run the risk of setting up a powerful oxidising action, which is liable to result in cracking and perishing of the paint film.

It is conceivable that a properly modified vehicle would greatly increase the opacity of mixed zinc paints, and would render them comparable on equal terms in this respect with the best lead paints. There is nothing novel or startling in the idea of the optical properties of a pigment being modified by the nature of the vehicle in which it is suspended. An everyday example is presented by whiting. Putty (which consists of whiting and linseed oil) thinned with linseed oil and turpentine would make but a poor paint, so far as masking a dark-coloured surface is concerned, and yet the same pigment when suspended in water and size possesses such excellent opacity that "one coat of distemper" is often held up as a pattern of all that is excellent in opacity.

I would direct your attention in this connection to these boards, one of which is painted with oxide of zinc thinned in the usual manner with raw linseed oil and turpentine, and the other with the same pigment thinned with a vehicle consisting chiefly of boiled oil. In actual practice, ease in working, suitable hardness and speed in drying may be secured by the addition of a little specially prepared terebine.

Here is another board painted with two coats of flat zinc paint. There is no deficiency of opacity observable here, and yet oxide of zinc is the only pigment used.

This question of thinness is inseparably bound up with the subject of the permanence and protective value of paints. I have been able to refer to it here in very general terms, but it is a wide and important subject, and one that merits far more attention than it receives at the hands both of paint manufacturers and painters.

I believe people are still to be met with who imagine oxide of zinc to be a material that is used in comparatively small quantities, and that it is still on its trial as a constituent of paint and allied products. Nothing can be more incorrect than this view. Although for certain reasons, some of which I have adverted to in the course of my remarks, oxide of zinc has not taken its place among painters' materials in Britain in anything like the same proportion that it has in many other countries, it is used in large and ever-increasing quantities in the preparation of many kinds of paints and protective materials. The export paint trade is responsible for the consumption of very large quantities of oxide of zinc, and paint made from this same pigment is daily shipped to India, Australia, China, South America and other places. In the United States oxide of zinc has to a very large extent superseded white lead as an everyday article of painter's consumption. There white paints sometimes contain oxide of zinc as the only pigmentary ingredient; at other times oxide of zinc and white lead are blended, and paints of this description are highly valued for their weather-resisting properties. Coming nearer home, our attention is drawn to the fact that in France legal restrictions have been placed upon the use of white lead, and in Belgium and Holland and in the coast towns along the Mediterranean the traveller's eye is arrested by numerous white-painted buildings, most of which are painted with oxide of zinc paint.

The white enamels and japans so much used by the British decorator to-day are practically without exception merely zinc paints thinned in a special manner, while by far the greater proportion of the lighter-coloured anti-corrosive paints, anti-fouling compositions, and similar materials contain oxide of zinc as their leading pigmentary ingredient. It cannot be mere chance or mere fancy that has led to such widespread use of this pigment, and I put it to you, gentlemen, whether the British decorator has as yet put himself in the position of being able to judge quite impartially as to the merits of oxide of zinc.

As the base of what we are accustomed to term in somewhat vague language "anti-corrosive" paints oxide of zinc holds a secure position, inasmuch as in this field it has been studied with the greatest accuracy and scientific care by such authorities as Newman, Breton, Spenrath and others. Newman in his work on the corrosion of iron structures assigns to oxide of zinc a high place in the list of anti-corrosive pigmentary substances; while Breton, having compared the pigment under various conditions with white lead, has recently summed up very fairly the merits and demerits of zinc paints, with special reference to their substitution for lead paints. He concludes that white lead paints resist better than paints made from zinc oxide or zinc sulphide the action of strong mineral acids and the penetration of efflorescence due to saltpetre, but he holds white lead to be inferior to zinc pigments in resisting heat, sudden changes of temperature, hydrogen sulphide, and oxidising agents like hypochlorites. White lead paints, he affirms, adhere less firmly and show a greater tendency to blister than zinc paints. The verdict of this authority is for this as well as for sanitary reasons in favour of the extended use of zinc paints.

To the architect and the engineer the subject of the protection of structures and building materials is one of paramount importance, and much might be said with reference to oxide of zinc from this point of view.

I am in a position at the present time only to glance in the most cursory manner at this aspect of the question. I have once again to express the view that it is primarily to the paint manufacturer that we have to look for skilled advice in the fabrication of paints capable of withstanding the commonly occurring sources of corrosion or decay met with in the various structural materials. I have recorded elsewhere that it is somewhat disconcerting to find that the number of paint manufacturers who have studied the question of corrosion, and the best means to be adopted for its prevention from a scientific and technical point of view, is almost as limited as the number of practical engineers who have an exact and technical knowledge of the subject of paints. The outcome of this is that the paint maker being in many cases unable to advise in a rational manner as to the selection of materials for use under given conditions, the engineer is obliged to make the selection himself, with the result that he talks of white lead or red lead paint or zinc paint as if these terms always referred to materials of exactly the same composition, and possessing in every case identical physical and protective properties. The subject of effective protection against corrosion is unfortunately too often confused by introducing the question of cost. The prime cost of the paint is too often regarded as the "end all" and the "be all" of the question. One may go the length of saying that of all the factors that go to make up the ultimate economic value of paint, that relating to its prime cost is the least important. In selecting a paint for any particular purpose, especially one in which the ultimate economic value of the paint is an important factor, there are four points of pre-eminent importance. The first is the composition of the paint, and here, as I said before, advice from experienced and technically equipped manufacturers is desirable. The second is the prime cost of the paint, the third is the covering or spreading capacity of the paint, and the fourth is the durability of the paint. A distinction must be drawn between the durability of the surface of the paint and the preservative action of the paint on the metal beneath. The two things are by no means identical, and a paint film often presents to the eye an apparently perfect and continuous surface when the metal or other material that is being protected has been seriously corroded underneath.

In Table 3 I have reproduced some figures that I have arrived at in regard to the relative cost of some typical paints on a twenty years' basis. It will be seen from these figures that the cheapest paint initially is by no means always the cheapest paint in the long run. To the painter and decorator this aspect of the question is perhaps hardly so important as it is to the architect, the engineer and the owner of property, but it can, I think, hardly be gainsaid that the painter or decorator who possesses the fullest and most accurate knowledge as to the nature and capabilities of the various materials at his disposal, will in the long run come to be regarded as the craftsman whose opinion is most worthy of reliance, and who may be expected to reap the reward of his knowledge in the increased esteem and consideration of his clients.

TABLE I.—SPECIFIC GRAVITY OF TYPICAL PIGMENTS.

(J. Cruickshank Smith.)

Oxide of zinc . . .	5·65	Chemically pure sample
Do. . . .	5·60	Commercial sample
White lead . .	6·60	Highest figure found for English stack-made
Do. . . .	5·48	Commercial sample
Do. . . .	5·51	American stack-made
Do. . . .	5·64	German chamber-made
Do. . . .	5·86	Belgian stack-made
Barytes (best white) .	4·02	Commercial sample
Oxide of iron . .	5·12	Chemically pure
Purple brown . .	4·23	Commercial sample
Red lead . . .	8·62 to 9·19	Commercial sample

TABLE II.—COVERING OR SPREADING POWER OF TYPICAL PAINTS.

(G. H. Hurst.)

The figures represent square feet covered by 10 lbs. of paint of the usual consistency, applied evenly with a brush.

On Wood.

	First Coat.	Second Coat.
Red lead . . .	112	252
White lead . . .	221	324
Oxide of zinc . . .	378	453
Red oxide . . .	453	540
Raw linseed oil . .	756	872
Boiled linseed oil . .	412	540

On Metal.

Red lead	477
White lead	648
Oxide of zinc	1,134
Red oxide	870
Raw linseed oil	1,417
Boiled linseed oil	1,296

On Plaster.

Red lead	324	On sized wall.
White lead	362	
Oxide of zinc	504	
Raw linseed oil	55	first coat, 99 second coat, on unsized wall.

TABLE III.—RELATIVE COST OF TYPICAL PAINTS ON A TWENTY YEARS' BASIS.

(J. Cruickshank Smith.)

Covering Capacity.—Calculated from the figures given by Mr. G. H. Hurst that 10 lbs. of the following paints cover on metal :—

White lead	648 square feet.
Zinc white	1,134 ,,
Red lead	477 ,,
Red oxide	870 ,,

Durability.—The relative figures are those currently accepted by British and American engineers.

Cost.—This is estimated at what is probably a maximum figure for the very best materials in large quantities.

The paints here mentioned are understood to be supplied ready for the brush, and to be made with special reference to the purpose for which they are to be used.

	White Lead.	Zinc White.	Red Lead.	Red Oxide.
Covering capacity in sq. yards per cwt.	806	1411	594	1083
Price per cwt. in shillings	32/-	36/-	32/-	28/-
Cost (in shillings) per 100 sq. feet	·44	·28	·60	·28
Times painted in 20 years	5	5	3	7
Cost in shillings per 100 sq. feet for 20 years	2·20	1·40	1·80	1·96
Relative economic value on 20 years' basis, the highest value being represented by 100	64	100	77	71

FIREPROOF CONSTRUCTION.

THE National Board of American Fire Underwriters have issued the following suggestions for the construction of fireproof buildings :—

Elevator Enclosures.—All elevators placed in any building shall be entirely enclosed in suitable walls of brick, or with a suitable framework of iron and burnt-clay filling, or with such other fireproof material and form of construction as may be approved by the inspector of buildings, except that the enclosure walls of elevators in non-fireproof buildings exceeding three storeys in height and used as warehouses, factories and stores shall be of brick. In fireproof buildings, when the construction of the elevator enclosure is of iron and burnt-clay filling or other approved materials, the said construction shall not be less than 6 inches in thickness. Said walls or construction in all cases shall extend through and at least 3 feet above the roof.

All door openings in any said enclosures shall be provided with approved fireproof doors made solid for their full height and hung to rabbited iron frames or to eyes built into the wall, and shall have iron door sills of the full width and length of the openings. Lights of wired glass, in approved metal frames, may be placed in such doors, but no one pane shall exceed in area 250 square inches between muntins or dividing bars.

All window openings in any said enclosing walls or construction opening from the shaft to within the building shall have window-frames of metal or of wood covered with metal and fixed sash of metal of the kind approved by the National Board of Fire Underwriters, and the sash shall be glazed with wired glass, no pane of which shall exceed 250 inches between dividing bars.

The roofs over all elevator enclosures shall be made of fireproof materials, with a metal skylight at least three-fourths the area of the shaft and glazed with glass not over one-twelfth of an inch thick covered above and below with strong wire netting, but wired glass shall not be used in lieu of this requirement.

Openings in Floors and Roofs for Light.—All openings in floors for the transmission of light to floors below shall be covered over with floor lights constructed of metal frames and bars and glazed with suitable glass not less than three-quarters of an inch in thickness, and the floor lights shall be of the same proportional strength as the floors in which they are placed.

All openings in roofs for the transmission of light other than elsewhere provided in this ordinance over elevator and stair shafts shall have metal frames and sash, glazed with not less than one-quarter-inch thick wired glass or with glass protected above with wire screens.

Every fireproof roof hereafter placed on any building shall have, besides the usual scuttle or bulkhead, a skylight or skylights of a superficial area equal to not less than one-fiftieth the superficial area of such fireproof roof, and glazed as other skylights are required to be in this section.

Ducts for Pipes.—All ducts for pipes, wires and other similar purposes shall be enclosed on all sides with fireproof materials, and the opening through each floor shall be properly fire-stopped. Any door opening in such duct shall be provided with a fireproof self-closing door. If the area of such duct exceeds 4 square feet the thickness of such fireproof enclosure shall be not less than 4 inches, and shall extend by a proper fireproof outlet to and through the roof.

Ducts for Ventilation.—Ducts for the removal of foul or vitiated air in which the temperature of the air cannot exceed the temperature of the room, if passing through any door, partition, room or roof, shall be constructed of suitable incombustible material. In buildings of fireproof construction ventilating shafts passing through floors shall be constructed of fireproof material not less than 4 inches in thickness, and any opening in same shall be protected by automatic closing doors or by metal louvres rivetted into metal frames.

Pipes passing through Floors.—In chases in walls for water or other pipes, the chases around said pipes shall be filled up with solid fireproof material for the space of 1 foot at the top and bottom of each storey.

Steam or hot-water heating pipes passing through floors shall be provided both at the floor and ceiling line with metal caps of sufficient size to fully cover the open space surrounding any and all such pipes, and any cold water or other exposed plumbing pipes shall have the surrounding air space closed off at the ceiling and floor line of any floor through which any such pipe or pipes shall be carried.

No opening in any floor or roof shall be without a solid covering or an enclosure, as provided in this ordinance, to prevent the communication of fire from storey to storey.

Stair-hall Enclosures.—In all stores, warehouses and factories the staircase halls shall be enclosed with suitable walls of brick, or with burnt-clay blocks set in iron frames or such other fireproof materials and forms of construction as may be approved by the inspector of buildings, except that the enclosure walls in such buildings exceeding three storeys in height shall be of brick. Said walls or construction shall be continuous and extend at least 3 feet above the roof. The roof over the stair-hall enclosure shall be covered with a metal and glass skylight at least three-eighths of the area of the enclosure, and constructed and glazed as required for skylights over elevator enclosures. All door openings in such stair-hall enclosures shall be provided with self-closing fireproof doors and frames, and all window openings shall have window frames of metal or wood covered with metal, and the window-sash shall be fixed sash of metal and glazed with wired glass. At least one of such enclosed stair halls in each of said buildings shall have a like connecting enclosure hallway in the first storey and extend to the street, and all door or window openings in the same shall be provided with doors and windows as provided for openings in the stair-hall enclosures.

In all fireproof buildings, other than stores, warehouses and factories, if exceeding three storeys and 40 feet in height, the stair halls shall be enclosed on each storey with fireproof material, same as required for elevators, to so form an enclosure the floor area of which shall not be more than three times the united area of the floor openings for the elevators and stairs.

Fireproof Buildings.—Every building hereafter erected or altered to be used as a theatre, lodging-house, school, gaol, public station, hospital, asylum, institution for the use, care or treatment of persons, the height of which exceeds three storeys and not more than 40 feet in height, and every building hereafter erected or altered to be used as a hotel, which exceeds four storeys and not more than 50 feet in height, excepting all buildings for which specifications and plans have been heretofore approved by the proper authorities, and every other building the height of which exceeds 55 feet or more than four storeys in height, shall be built fireproof, that is to say :—

They shall be constructed with walls of brick, stone, Portland cement concrete, iron or steel, in which wood beams or lintels shall not be placed, and in which the floors and roofs shall be constructed with rolled wrought-iron or steel floor beams, so arranged as to spacing and length of beams that the load to be supported by them, together with the weights of the materials used in the construction of the said floors, shall not cause a greater deflection of the said beams than one-thirtieth of an inch per foot of span under the total load ; and they shall be tied together at intervals of not more than eight times the depth of the beam with suitable tie-rods.

Between the floor-beams shall be placed brick arches springing from the lower flanges of the steel beams, or the spaces between the beams may be filled with hollow tile arches of hard-burnt clay or porous terra-cotta, or arches of Portland cement reinforced with metal, or such other fireproof composition may be used, provided that in each and all cases the strength and method of construction shall be acceptable to the inspector of buildings.

The stairs and staircase landings shall be entirely of brick, stone, Portland cement concrete, iron or steel.

No woodwork or other inflammable material shall be used in any of the partitions, furrings or ceilings in any such fireproof buildings, excepting, however, that when the height of the building does not exceed eight storeys nor more than 100 feet, the doors and windows and their frames and trims, the casings, the interior finish when filled solidly at the back with fireproof material, and the floor boards and sleepers directly thereunder may be of wood, but the space between the sleepers shall be solidly filled with fireproof materials and extend up to the floor boards.

When the height of a fireproof building exceeds eight storeys, or more than 100 feet, the floor surfaces shall be of stone, cement, rock asphalte, tiling or similar incombustible material, or the sleepers and floor boards may be of wood treated by some process approved by the inspector of buildings to render the same fire-retarding. All outside window frames and sash shall be of metal, or of wood covered with metal.

The inside window frames and sash, doors, trim and other interior finish may be of wood covered with metal, or of wood treated by some process approved by the inspector of buildings to render the same fire-retarding.

All hall partitions or permanent partitions between rooms in fireproof buildings shall be built of fireproof material, and shall not be started on wood sills, nor on wood boards, but be built upon the fireproof construction of the floor and extend to the fireproof beam filling above.

The tops of all door and window openings in such partitions shall be at least 12 inches below the ceiling line.

Encasing Structural Iron and Steelwork.—The bottom flanges of all wrought-iron or rolled steel floor and flat roof beams, and all exposed portions of such beams below the abutments of the floor arches shall be entirely encased with hard-burnt clay, porous terra-cotta or other fireproof material corresponding to the filling between the beams, such encasing material to be properly secured to the beams. The exposed sides and bottom plates or flanges of wrought-iron or rolled steel girders supporting iron or steel floorbeams, or supporting floor arches or floors, shall be entirely encased in the same manner.

All cast-iron, wrought-iron or rolled steel columns, including the lugs and brackets on same, used in the interior of any fireproof building, or used in any building to support any fireproof floor, shall be protected with not less than 4 inches of fireproof material, securely applied. The extreme outer edge of lugs, brackets and similar supporting metal may project to within seven-eighths of an inch of the surface of the fireproofing.

In skeleton constructions where columns are used to support iron or steel girders carrying enclosure walls, the said columns shall be of cast-iron, wrought-iron, or rolled steel, and on their exposed outer and inner surfaces be constructed to resist fire by having a casing of brickwork not less than 8 inches in thickness on the outer surfaces, nor less than 4 inches in thickness on the inner surfaces, and all bonded into the brickwork of the enclosure walls. The exposed sides of the iron or steel girders shall be similarly covered in with brickwork not less than 4 inches in thickness on the outer surfaces and tied and bonded, but the extreme outer edge of the flanges of beams, or plates or angles connected to the beams, may project to within 2 inches of the outside surface of the brick casing. The inside surfaces of the girders may be similarly covered with brickwork, or if projecting inside of the wall, they shall be protected by terra-cotta, concrete or other fireproof material

In all buildings hereafter erected or altered, where any iron or steel column or columns are used to support a wall or part thereof, whether the same be an exterior or an interior wall, and columns located below the level of the sidewalk which are used to support exterior walls or arches over vaults, the said column or columns shall be protected with not less than 4 inches of fireproof material securely applied, except protected columns shall not be required for walls fronting on streets or courts

Floor Areas in Stores, Warehouses and Factories.—In all non-fireproof stores, warehouses and factories, in case iron, steel or wood columns, or piers of masonry, are used in place of brick partition walls the buildings between partition walls of a thickness corresponding to the main bearing walls—

When extending from street to street may cover an area of not more 6,000 square feet ;

Or when otherwise located fronting on one street only, may cover an area of not more than 5,000 square feet ;

Or when such a building fronts on three streets it may cover an area of not more than 7,500 square feet ;

Or if a corner building fronting on two streets it may cover not more than 6,000 square feet ;

In all stores, warehouses and factories, not exceeding 55 feet in height, which may be built fireproof, the areas between brick partition walls of a thickness corresponding to the main bearing walls may be 100 per cent. greater than the areas stated hereinbefore in this section for non-fireproof buildings. But in case any such fireproof building exceeds the height of 55 feet, the areas between brick partition walls of a thickness corresponding to the main bearing walls may be the same, but no greater, than the areas hereinbefore stated in this section for non-fireproof construction.

Provided, however, in case the foregoing described buildings are completely equipped with a system of automatic sprinklers in a manner approved by the ——— Board of Fire Underwriters, the areas between the brick partition walls may be increased as follows :—

For the non-fireproof constructed buildings, the respective areas hereinbefore stated may be increased 50 per cent. ;

For fireproof-constructed buildings not exceeding 55 feet in height, the respective areas hereinbefore stated may be increased $33\frac{1}{3}$ per cent.; and

For the fireproof-constructed buildings exceeding 55 feet in height, the respective areas hereinbefore stated may be increased $33\frac{1}{3}$ per cent.

The automatic sprinkler system hereby required shall be installed and kept in perfect working order by the owner, lessee or occupant of the premises.

Openings in the brick partition walls of buildings specified in this section shall in no case exceed 8 feet in width, and above each such opening there shall be a brick curtain wall between the top of the opening and the ceiling line of at least 3 feet. The openings shall be provided with approved automatic self-closing fireproof doors on both sides of the openings.

When more than two fireproof or non-fireproof buildings communicate, although protected by double fireproof doors, they shall be provided with a system of approved automatic sprinklers where occupied as stores, warehouses and factories.

Stairs, Number of, in Proportion to Floor Areas.—In any building hereafter erected to be used as an office building, a store, factory, hotel, lodging-house or school covering a lot area—

Exceeding 2,500 feet and not exceeding 5,000 feet, there shall be provided at least two continuous lines of stairs remote from each other ;

And every such building shall have at least one continuous line of stairs for each 5,000 feet of lot area covered, or part thereof, in excess of that required for 5,000 feet of area.

When any such building covers an area of lot greater than 15,000 feet the number of stairs shall be increased proportionately, or as will meet with the approval of the inspector of buildings.

Electrical Work.—No electrical wiring or installation of electrical apparatus or appliances for furnishing light, heat and power shall be introduced into or placed in any building or structure in the city of ———, except in compliance with the rules and regulations of the National Board of Fire Underwriters, known as the "National Electric Code," and the said rules and regulations are hereby made a part of the requirements of this ordinance. No such electrical wiring, apparatus or appliances shall be placed in service until a certificate of approval of same has been issued by the ——— Board of Fire Underwriters. The installation of all such electrical work shall be subject to the approval of the inspector of buildings.

Fireproof Shutters and Doors.—Every building which is more than two storeys in height above the curb level, except dwelling-houses, hotels, school-houses and churches, shall have fireproof doors, blinds or shutters hung to iron hanging frames or to iron eyes built into the wall, on every exterior window and opening above the first storey thereof, and, excepting on the front openings of buildings fronting on streets which are more than 30 feet in width, or where no other buildings are within 30 feet of such openings.

The said doors, blinds or shutters may be constructed of pine or other soft wood of two thicknesses of matched boards at right angles with each other, and securely covered with tin on both sides and edges, with folded lapped joints, the nails for fastening the same being driven inside the lap ; the hinges and bolts or latches shall be secured or fastened to the door or shutter after the same has been covered with tin, and such doors or shutters shall be hung upon an iron frame, independent of the woodwork of the windows and doors, or to iron hinges securely fastened to the masonry ; or such frames, if of wood, shall be covered with tin in the same manner as the doors and shutters.

On any opening where the window frame and sash are of metal, or of wood covered on the outside with metal, and the sashes are glazed with wired glass not less than one-quarter of an inch in thickness, and each pane measuring not more than 600 square inches, no fireproof shutters shall be required.

All shutters opening on fire-escapes, and at least one row, vertically, in every three rows on the front window openings above the first storey of any building, shall be so arranged that they can be readily opened from the outside by firemen.

All rolling iron or steel shutters hereafter placed in the first storey of any building shall be counter-balanced so that said rolling shutters may be readily opened by firemen.

No building hereafter erected, other than a dwelling-house or fireproof building, shall have inside iron, steel or other fireproof shutters to windows above the first storey.

All windows and openings above the first storey of any building may be exempted from having shutters by the inspector of buildings upon filing in the Department of Buildings a petition on suitable blanks to be furnished to applicants by the said department, by the owner or lessee of the property, or the agent of either, requesting exemption, or a partial exemption, or a modification of the requirement for shutters; but no such exemption or modification shall be granted by the inspector of buildings until such petition shall have been referred by him to the chief of the Fire Department for examination, and a report and recommendation thereon is received from the said chief.

All buildings specified in this section, hereafter erected or altered, having openings in interior walls, shall be provided with suitable fireproof doors where deemed necessary by the inspector of buildings, and be provided with approved automatic self-closing devices.

All occupants of buildings shall close all exterior and interior fireproof shutter doors and blinds at the close of the business of each day.

Fire Appliances.—Every building unless already provided with a 3-inch or larger vertical pipe which exceeds 100 feet in height and in every building hereafter to be erected exceeding 85 feet in height, and when any such building does not exceed 125 feet in height it shall be provided with a 4-inch standpipe running from cellar to roof, with one two-way 3-inch Siamese connection to be placed on street above the curb level, and with one 2½-inch outlet with hose attached thereto on each floor placed as near the stairs as practicable, and all buildings now erected or hereafter to be erected, unless already provided with a 3-inch or larger vertical pipe exceeding 100 feet in height, shall be provided with an auxiliary fire apparatus and appliances, consisting of water-tank on roof or in cellar, standpipes, hose, nozzles, wrenches, fire-extinguishers, hooks, axes and such other appliances as may be required by the Fire Department; all to be of the best material and of the sizes, patterns and regulation kinds used and required by the Fire Department.

In every building exceeding 100 feet in height a power pump and at least one passenger elevator shall be kept in readiness for immediate use by the Fire Department during all hours of the night and day, including holidays and Sundays. The said pumps, if located in the lowest storey, shall be placed not less than 2 feet above the floor level. The boilers which supply power to the passenger elevators and pumps, if located in the lowest storey, shall be so surrounded by a dwarf brick wall laid in cement mortar, or other suitable permanent waterproof construction, as to exclude water to the depth of 2 feet above the floor level from flowing into the ash pits of said boilers. When the level of the floor of the lowest storey is above the level of the sewer in the street, a large cesspool shall be placed in said floor and connected by a 4-inch cast-iron drain pipe with the street sewer.

Any building which may have been erected prior to the enactment of this ordinance, exceeding 125 feet in height, and not now equipped with standpipes, shall be provided with such pipes not less than 6 inches in diameter. All standpipes shall extend to the street and there be provided at or near the sidewalk level with Siamese connections. Said standpipes shall also extend to the roof. Valve outlets shall be provided on each and every storey, inluding the basement and cellar and on the roof.

If any of the said buildings extend from street to street or form an L shape they shall be provided with standpipes for each street frontage.

In such buildings as are used or occupied for business or manufacturing purposes there shall be provided, in connection with said standpipe or pipes, two and a half automatic sprinkler pipes placed on and along the ceiling line of each floor below the first floor and extending to the full depth of the building. Said sprinkler pipes shall be provided with a valve placed at or near the standpipes so that water can be let into same when deemed necessary by the firemen. When the building is 25 feet or less in width two lines of sprinkler pipe shall be provided, and one line additionally for each 12½ feet or part thereof that the building is wider than 25 feet. A suitable iron plate with raised letters shall be fastened to the wall near said standpipe to read, "This standpipe connects to sprinkler pipes in cellar."

A Course of Ten Lectures on "The History of Architectural Development," by Professor F. M. Simpson, will begin at the University College, London, on Friday, April 22, at 11 A.M.

ASSESSMENT OF LAND VALUES.

In our last we printed a letter from Mr. W. Sturge, surveyor, on the Land Values Assessment Bill. The following letter from Sir J. F. L. Rolleston has appeared in the *Times*:—

Although the Bill is apparently dead for the present session, yet in view of its reappearance the opinions of any one so experienced as Mr. Sturge are valuable.

The Royal Commission on Local Taxation heard a good deal of very valuable evidence on this subject and a full report of its conclusions was published, together with a very excellent minority report by Lord Balfour and others. Neither of these reports can be quoted as favourable to the Bill which passed its second reading last month, and to the provisions of which I agree with Mr. Sturge that there are several, but one especial objection.

At the same time I do not agree that separate valuations of buildings and sites are impracticable or even difficult. Such valuations are made every day for various purposes, and I think that in the case of a valuable central site, occupied by inferior property, the municipality might fairly claim to be entitled to levy rates on what a hypothetical building tenant might reasonably be expected to give, instead of only on what the inferior property occupying the site could be let for. Judgments, however, given in the Courts appear to prohibit this; and so far as the Bill, if it becomes an Act, might push valuable sites into the market and cause them to be used to the best advantage, and consequently to their full rate-paying capacity, I think it ought to meet with encouragement.

But the one special objection that there is to the Bill to my mind is the proposal to rate uncovered land on its hypothetical capital value, which, I agree with Mr. Sturge, would be most difficult to assess.

I venture to say that, almost without exception, building land is built upon when it becomes ripe, *i.e.* when the space fringing towns comes into demand for the erection of works or the housing of increasing population. Few people can afford to hold such land back, and if they do they usually outstand their market, the demand, which is irrepressible, being satisfied elsewhere.

My experience is that landowners compete with each other for this market, and that they do not withhold their land. Ripe building land does not present difficulties in assessment, but it is unripe building land, land which is presumed to have prospects beyond pasturage or cultivation, which causes the widest divergence of expert opinion.

It may not be too much to say that no one is skilled enough to guess with accuracy the prospects of uncovered land. So much depends upon the course of trade, upon the progress of industry and consequent increase of population, upon war, upon the production of the precious metals and other causes out of the range of human foresight. The French and German war raised the price of urban land, the South African war depressed it.

I have known land purchased thirty-five years ago on which streets and sewers were immediately constructed, but on which there are no buildings to-day. On the other hand, I have known in recent years a small farm let at 100*l.* a year sold for 50,000*l.*, with results that well justified the price. So many circumstances, both local and national, may affect the prospects of land that the building speculator, who is always a pioneer, has to take considerable risks. It is this class that the Rating Bill, I believe, wants to catch, and I submit it is the wrong class to be caught.

It is the speculating pioneer to whom many large towns owe much progress and improvement. It was, I believe, a speculator who made raised sheets across the marshes, and largely built Belgravia, a district which is no disgrace even to fashionable London. Without him private people could not have created such development. He it is who makes the municipality rather than the municipality makes him. The speculating builder is largely a borrower, and there are usually considerable mortgage investments on his land.

Around some large towns there are large tracts of prospective building land, taken up on the land society system (happily on the increase) by working people on the principle of payment by small instalments.

To rate land on the capital value on a 3 per cent. basis as proposed in the Bill would check enterprise; bring serious loss to those who could not have foreseen such an unjust impost; imperil many mortgage investments; and place an intolerable burden on the savings of working people.

I doubt if land can be forced into the market for which there is no natural demand. Certainly no economic force can provide money for putting up buildings, or create people to live in them, any more than physical force can make a horse drink. To encourage overbuilding is what any prudent municipality would avoid.

In some well-managed towns there is no alarming increase in the rates which need cause them to catch hold in a crude fashion of property nearest to hand, such as uncovered land

and machinery used in production in order to find additional security for their borrowings. The town of Leicester, which I represent, is better provided with open spaces than most towns. It has almost the lowest death rate. It has grown beyond expectation. It is constructing an additional water supply of twelve million gallons per day from the Peak of Derbyshire, seventy miles away, and has a complete system of electric traction approaching completion, and last month the chairman of the finance committee announced a reduction of *3d.* in the pound in the rates.

While local rates for all purposes are levied on such a limited class of property and such a limited class of people, pressure for the readjustment of their incidence must always be looked for; but if municipalities want a larger field from which to gather in their increasing exactions let them be original enough to get the doors of the safes and strong-rooms open and levy some portion of their rates upon the large properties hidden away therein, rather than upon property which is spread out before the eyes of every one, such as realty and machinery, merely because it saves trouble. To keep worrying realty and machinery (which is, in effect, the tools of working men and women) by fresh exactions seems to me to be only another instance of that baby finance which always appears to prompt Chancellors of the Exchequer to go to the income tax when they want money, not because that tax is fair and just, which it can never be until it is differentiated or further graduated, but merely because it is easy.

I hope that there are enough obvious objections to rating uncovered land on its capital value sufficient to wreck any Land Rating Bill which contains such a provision, and I hope that unless that is eliminated that may be the fate of the present Bill when it again makes its appearance.

THE NATIONAL GALLERY.

THE annual report of Sir E. J. Poynter, the director of the National Gallery, for the year 1903 announces that the purchases out of the Clarke Bequest Fund were "Portrait of a Lady as St. Margaret," by Francisco Zurbaran. Purchased out of the "Lewis Fund": "The Market Place at The Hague," by Paul Constantin la Fargue; "Judith," by Alfred Stevens, and "King Alfred and his Mother," by Alfred Stevens. Presented by Mrs Seymour: "Life's Illusions," by G. F. Watts, R.A. Presented by Mrs. Street and Mrs. Hadley: "Victoria Regina," by H. T. Wells, R.A. Presented by Mrs Calthrop: "Scottish Jacobites," by Claude Calthrop. Presented by Sir William Agnew, Bart.: "Portrait of Mrs. Hartley and her Child," by Sir Joshua Reynolds, P.R.A. Presented by Mr. John P. Heseltine: "Portrait of a Man," by Lucas Cranach the Elder. The following pictures and statues were purchased for the nation by the President and Council of the Royal Academy of Arts under the terms of the Chantrey Bequest: "In the Country of Constable," by David Murray, A.R.A.; "Autumn in the Mountains," by Adrian Stokes; "The Spring-tide of Life," by William R. Colton, A.R.A.; "Remorse," by Hugh H. Armstead, R.A. Of the six collections of Turner's drawings and sketches available for temporary loan to provincial institutions, No. 1 still remains on loan at the Hanley Museum; No. 2 has been lent, for the second time, to the Glasgow Corporation; Nos. 3, 4, and 6 still remain on loan at the Royal College of Art, South Kensington, Newport and Bradford respectively; No. 5 having been returned from Glasgow, is at present deposited in the Gallery at Trafalgar Square. The following three pictures were lent in June last to the Rochdale Art Gallery, and were returned to the National Gallery in November:—545. "The Whalers," by J. M. W. Turner, R.A.; 1863. "A Dutch Market Place," by Gerrit Berck-Heyde; 1869. "Landscape with Figures," by David Teniers.

Sir E. J. Poynter adds that in reply to representations made by the Trustees to the Treasury in reference to the recognition of the claim of the National Gallery to the site in the rear of the Gallery hitherto occupied by St. George's Barracks, a reply was received on September 5 to the effect that the Treasury were prepared to sanction the extension of the Gallery as the ground should be surrendered by the War Department, but that no definite promise could then be given that the entire site should be set aside for this purpose. The Treasury were ascertaining "what, if any, part of the space in question might be available for an extension of the Gallery, to be commenced in the course of the ensuing financial year." By the permission of the King, the two fine pictures by Tintoretto, from the Hampton Court collection, "Esther before Ahasuerus" and "The Nine Muses," which had been included in the Winter Exhibition of the Royal Academy of Arts, and which had been by the request of the surveyor of His Majesty's pictures cleaned under the superintendence of the director of the National Gallery, were exhibited for nearly five months at Trafalgar Square before their return to Hampton Court. At the suggestion of the Director of the National Portrait Gallery the Trustees sanctioned the transfer from that Gallery to the Office of Works, for the decoration of 10 Downing Street, of the duplicate busts of Canning and Wellington.

With regard to the number of visitors to the Galleries, the director says:—"The Gallery in Trafalgar Square was visited by 457,251 persons on the free days during the year, showing a daily average attendance on such days (208 in number) of 2,198. In addition to the above number, 36,344 persons visited the Gallery on the thirty Sunday afternoons on which it was opened during 1903, showing a daily average attendance of 1,211. On students' days (Thursdays and Fridays), 46,178 persons were admitted between January 1 and December 31, 1903, the admission fees (at *6d.* each) amounting to 1,154*l.* 9*s.*, as compared with 1,111*l.* 0*s.* 6*d.* received in 1902. The National Gallery of British Art, at Millbank, has been visited by 206,494 persons on free days during the year, showing a daily average attendance on such days (206 in number) of 1,002. In addition to the above number, 35,054 persons visited the Gallery on the thirty Sunday afternoons on which it was opened during 1903, showing a daily average attendance of 1,168. On students' days (Tuesdays and Wednesdays), 33,978 persons were admitted between January 1 and December 31, 1903, the admission fees amounting to 849*l.* 9*s*, as compared with 730*l.* 11*s.* 6*d.* received in 1902. The amount annually realised by admission fees at both establishments is devoted as an 'Appropriation in Aid' of the Parliamentary vote to the National Gallery. The total number of students' attendances at the Gallery in Trafalgar Square on Thursdays and Fridays throughout the year was 15,892. Independently of partial studies 762 oil-colour copies of pictures have been made, viz. 420 from the works of 121 old masters and 342 from the works of 22 modern painters. The total number of students' attendances at the Gallery of British Art on Tuesdays and Wednesdays throughout the year was 8,486, and 128 completed copies of the pictures have been made in oil-colours and 105 in water-colours and 19 in pastels."

GLASGOW INSTITUTE OF ARCHITECTS.

THE annual general meeting of the Institute was held last week, Mr. Horatio K. Bromhead, F.R.I.B.A., president, in the chair. The secretary read the thirty-sixth annual report, which stated that during the past session Sir James Guthrie, president of the Royal Scottish Academy, was added to the roll of honorary members. The number of ordinary members on the roll is now seventy-three.

The President, in moving the adoption of the report, said that one of the most important improvements for the profession to which he looked forward was the openness and publicity of competition. They were indebted to the Corporation of Glasgow, who had been most successful in obtaining, by competitions, a number of good designs for public libraries. This was a great contrast to the Royal Infirmary competition. On a recent occasion the Lord Provost said that the design which the governors were proposing to adopt had been submitted to their officials, who had indicated some details which it was thought required improvement. They might, therefore, conclude that there might at last be a dawning idea at headquarters that a grievous mistake had been made in casting out the designs that were pronounced the best, and in refusing to submit the inferior favoured one to public daylight. If he had not seen the front elevation of the chosen design it would have been his opinion that any new building might have a better appearance than the old one. But the proposed skyscraper could only be considered a calamity to the most venerable specimen of architecture in Scotland, the cathedral. If it were for the public good, feelings might be stifled, but when it was known that the most modern and perfect ideas were dead against it, when one saw that the most remarkable modern hospital (Belfast) was only one storey high, and the intended new building at Manchester was to be only two storeys high, one could not help seeing the ill-advisedness of spending a large sum of money after the manner of a bygone generation. However, the Institute might have a little comfort in the hope that their action had produced a limited modification of the defects. Looking ahead, there appeared to be a little cloud arising on their horizon, in the unfortunate tendency to divide the profession into two parties. On the one hand, there were architects who seemed to want to make out that art was everything, and who struggled to get elected into some art atmosphere which they possibly imagined was superior to architecture, where they could ignore business capacity and practical knowledge by employing skilled specialists to do the real work for them. On the other hand, they saw men who were content to make their work practical and businesslike, whose skill enabled them to use materials in a sensible and economical manner, but with little thought of suppressing what was ugly. From this point of view, the recent agreement between the School of Art and the Technical

College, to confine the art teaching of architecture to the School of Art and the constructive and scientific branches of architecture to the Technical College, was quite a disaster. The antidote was, however, in the air in the shape of statutory registration of architects, which had become the question of to-day. He hoped this would lead both sides to see that the happy medium was a combination of both ideas.

The motion was adopted.

The Council for the ensuing year was elected as follows:—Messrs. David Barclay, A. N. Paterson, John Keppie, Horatio K. Bromhead, James Lindsay, T. L. Watson, James M. Monro, Alex. M'Gibbon, Andrew Balfour, W. J Boston, Charles Gourlay, J. A. Campbell, Thomas Baird, jun., R. D. Sandilands, James K. Hunter and J. M. Crawford. The treasurer's accounts, which were submitted and approved of, showed that the funds were in a satisfactory position. A meeting of the newly-elected Council followed, at which office-bearers for the ensuing year were appointed, viz. President, Mr. John Keppie, F.R.I.B.A.; vice-president, Mr James M. Monro; auditor, Mr. David Barclay, F.R.I.B.A.; secretary and treasurer, Mr. C. J. MacLean. The various committees for the year were also appointed, including committees on public architecture and on architectural education, &c.

SOCIETY OF ANTIQUARIES OF SCOTLAND.

THE monthly meeting of the Society was held at the National Museum of Antiquities, Queen Street, Edinburgh, on Monday, Dr. Robert Munro, vice-president, in the chair.

The first paper, by Alexander O. Curle, W.S., gave a description of some Norman remains recently discovered in Hobkirk parish, on Rule Water, Roxburghshire. They include three capitals of pillars, which had been removed from the churchyard to adorn the rockery of the manse by a former minister. Two of these are fine examples of characteristic Norman work of the first half of the twelfth century, approximating to the style shown in the church of Edrom, or the east cloister doorway at Dunfermline. The third may have been the cap of an angle shaft. The earliest record of the church of Hobkirk is in a document of A.D. 1220, but these stones are witnesses to the existence of a Norman church of a considerably earlier date. They are now in the possession of Mr. Tancred, of Weems. About a mile and a half above Hobkirk, Mr. Curle also discovered a portion of the head of an old wayside cross, consisting of the upper and two side arms, which are connected by segmental bands, forming a circle round the centre of the cross-head. It had originally been brought from the foundation of the house of Appotsyde many years ago to Harwood Mill, where it had been built into the wall of a byre, and from there to the mansion-house of Harwood, where it is now preserved. Appotsyde is considered to be a corruption of Aldpethsyde, and in former times the old path or hill road to Liddesdale passed near by, and beside it this cross may have stood. The form of the cross-head presents some peculiar features, which are paralleled among the crosses of Cornwall and Cumberland.

In the second paper Mr Thomas Ross, architect, called attention to some hitherto undescribed hog-backed monuments at Kirknewton and Abercorn As Bede informs us, Abercorn was for a short time the seat of a bishop of the Northumbrian church in the latter part of the seventh century, and a well-known hog-backed monument in the churchyard there, which has sometimes been regarded as a relic of that church, is at least probably of pre-Norman times. During alterations on the church some years ago considerable portions of two other monuments of the same kind were found and a fragment of a third, which are now preserved in the church. At Kirknewton there is a well-preserved example of the same type which seems hitherto to have escaped observation. It resembles the one first mentioned at Abercorn, and both are situated to the south-west of the church, which in each instance is of twelfth-century date. The other fragments at Abercorn are not so pronouncedly hog-backed as many are, but they clearly belong to the same type, of which there are sixteen examples in Scotland, Govan and Abercorn being the principal.

In the third paper Mr. F. R. Coles, assistant keeper of the Museum, gave an account of the discovery and examination of a cist with an Iron Age interment at Moredun, Midlothian.

In the fourth paper Mr. J. M. Mackinlay recounted the traces of the cultus of St. Fergus in Scotland.

In the last paper Mr. F. Haverfield referred to the inscribed tablet discovered in 1895 during the Society's excavation of the Roman camp at Birrens.

The Second Annual General Meeting of the Liverpool Architectural Society will be held at 13 Harrington Street, Liverpool, on Monday next, the 18th inst., at 6 P.M.

GENERAL.

The Prince and Princess of Wales open to-day (Friday) St. Paul's School for Girls, erected at Brook Green, West Kensington, at a cost of more than 70,000*l*. The principal façade is ornamented with two reliefs by Mr. Henry Pegram, A.R.A., and one by Mr. N. Murphy. Mr. Gerald C. Horsley is the architect.

The Society of Architects will hold a meeting on Thursday, April 21, at 8 P.M., when a paper on "The Cottancin System of Armoured Construction" will be read by Mr. A. R. Galbraith, Assoc.M.Inst.C.E.I. The paper will be illustrated by lantern slides and diagrams.

The German Government has prohibited the fixing of a commemorative tablet on the house in Metz where Paul Verlaine, the poet, was born.

Mr. Richard Godson Millns has bequeathed his collection of oil-paintings, water-colours and engravings to the town of Nottingham. The value is estimated at from 7,000*l*. to 10,000*l*.

The Society of French Artists has elected the following jury of architects to officiate for the Salon of 1904:—MM. Scellier de Gisors, Pascal, Vaudremer, Laloux, Moyaux, Giraud, Raulin, Nénot, Daumet, Gaudet, Redon, Paulin, Deglane, L. Bonnier.

An Exhibition of historical portraits illustrating the history, customs and habits of the Oxford University from the earliest time was opened on Tuesday in the Examination Schools. The period covered by the collection is to the end of the reign of James I.

The King of Spain visited the works of the new church which is in course of erection in Barcelona. Afterwards he was a spectator of the casting of an allegorical group connected with his visit, and of a bronze statue of Alphonse XII. to be set up in Madrid.

Mr. S. Coombes is now exhibiting at 175 Strand an interesting collection of marine paintings by that clever artist, Mr. Thomas Somerscales.

Mr. W. T. Oldrieve, F.S.I., has been appointed principal architect and surveyor for Scotland under the Commissioners of His Majesty's Works and Public Buildings.

Mr. Glyn Vivian has offered to provide an art gallery for Swansea if a site is provided. The Corporation have accepted the offer.

M. Fernand Chailloux, sculptor, died last week in Paris at the age of twenty-six years. He was a butcher's assistant at Marnes when the mayor of that little town discovered his ability, and enabled him to go to Paris. The sculptor made his début at last year's Salon, where his monument of Pasteur, intended for his native town, was awarded a medal.

The Directorate of the Quest Gallery, London, have had copies made of several of the most celebrated miniatures and pictures after Cosway, Hoppner, Gainsborough, Reynolds, Lawrence and other masters. Side by side with these copies there will be specimen works of Cosway, Petitot, Zincke, Ross, Smart and other miniaturists of note. The exhibition will open next week, and will continue till July.

The New Artesian Well at the Butte-aux-Cailles, in Paris, was inaugurated on the 7th inst. Although Paris is supposed to have obtained a costly water-supply, the municipality have not lost faith in the use of deep wells.

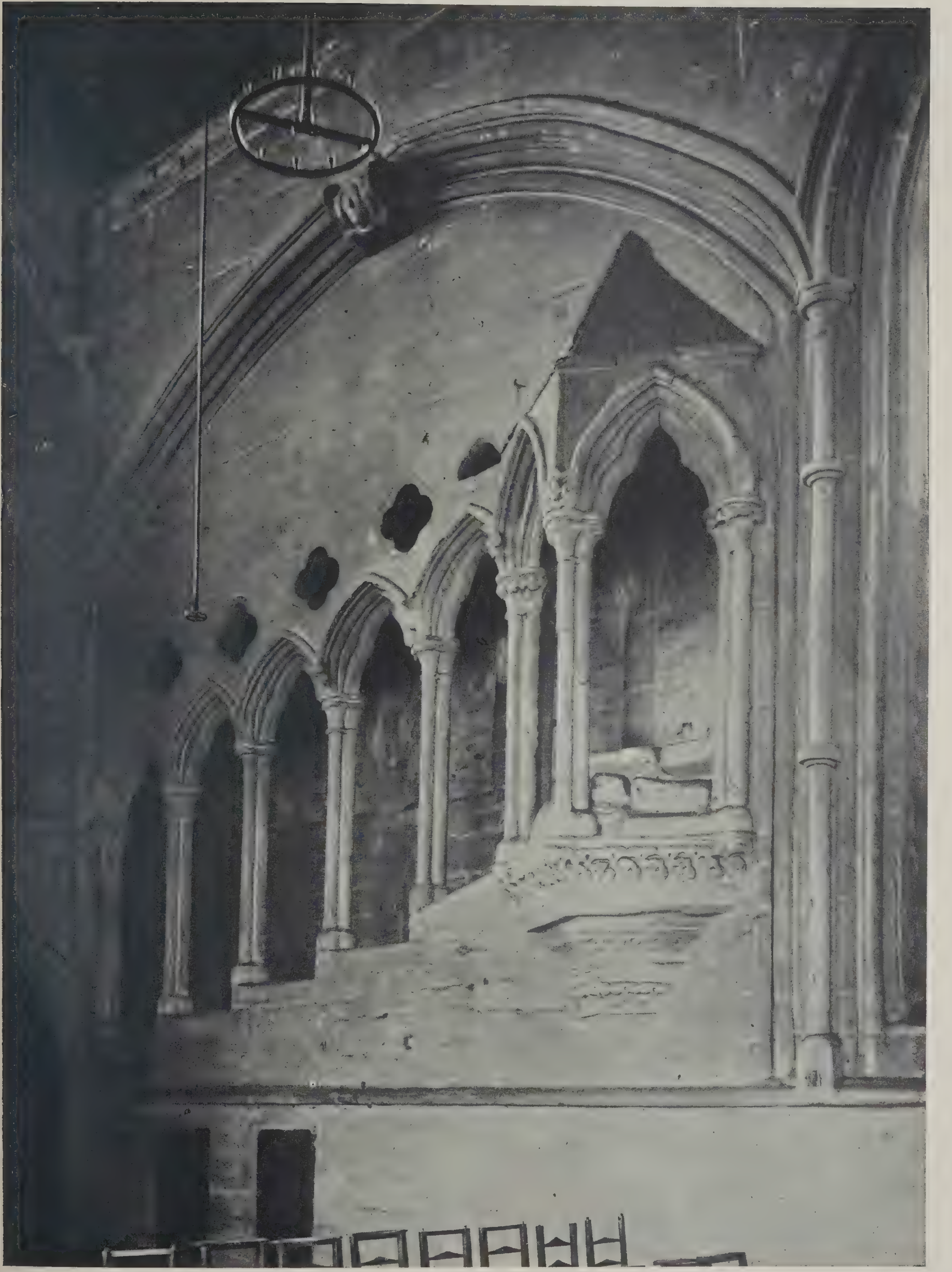
The Greek Government has decided to restore the ancient stadium at Delphi. The entrance had three arches, which with the marble fragments belonging to the original structure, are still lying on the site.

The Anglo-French Declaration regarding Egypt and Morocco has the following clause:—"It is agreed that the general direction of Egyptian antiquities will continue to be, as in the past, entrusted to a French savant. The French schools in Egypt will continue to enjoy the same liberty as in the past."

Mr. George C. Lloyd, chief assistant to the Iron and Steel Institute, has been appointed to the secretaryship of the Institution of Electrical Engineers.

The National Society of the Architects of France opened their thirteenth annual congress last week in Paris The subject for competition is the project of the construction of a bathing and hydropathic establishment in a town of 80,000 inhabitants.

Mr. T. Forman, Walnut Tree Walk, Kennington Road, S.E., writes to inform us that the number of "Angel inns," which is given as seven in the article "The Crypts in Guildford High Street" in our issue of last week, might have been increased. Mr. Forman knows of one at Odiham, Hampshire, and another in Lambeth Walk.



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CATHEDRAL SERIES No. 486.—CHESTER: READER'S PULPIT IN REFECTORY

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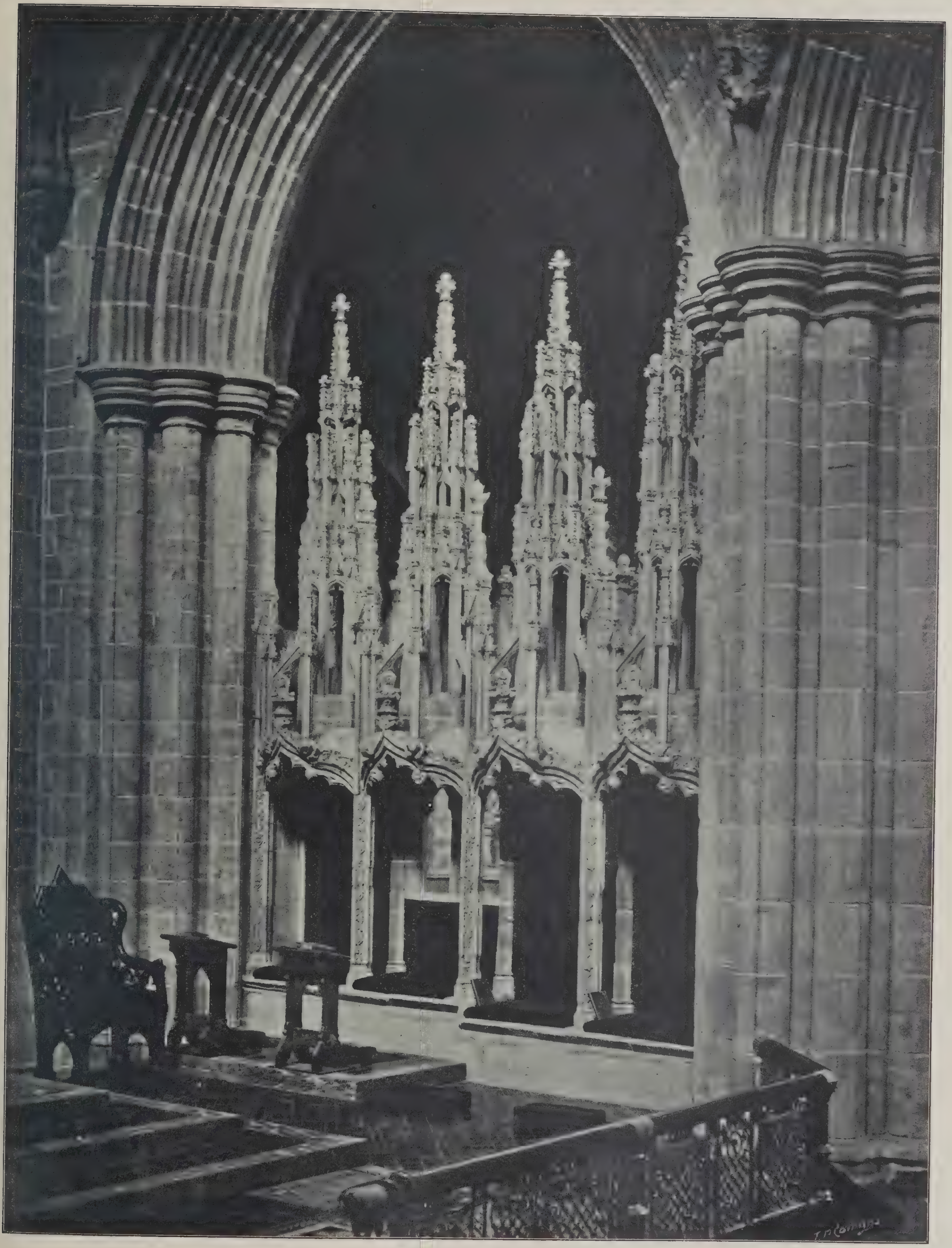

Cathedral Series, No. 485.—Chester: The Sedilia.

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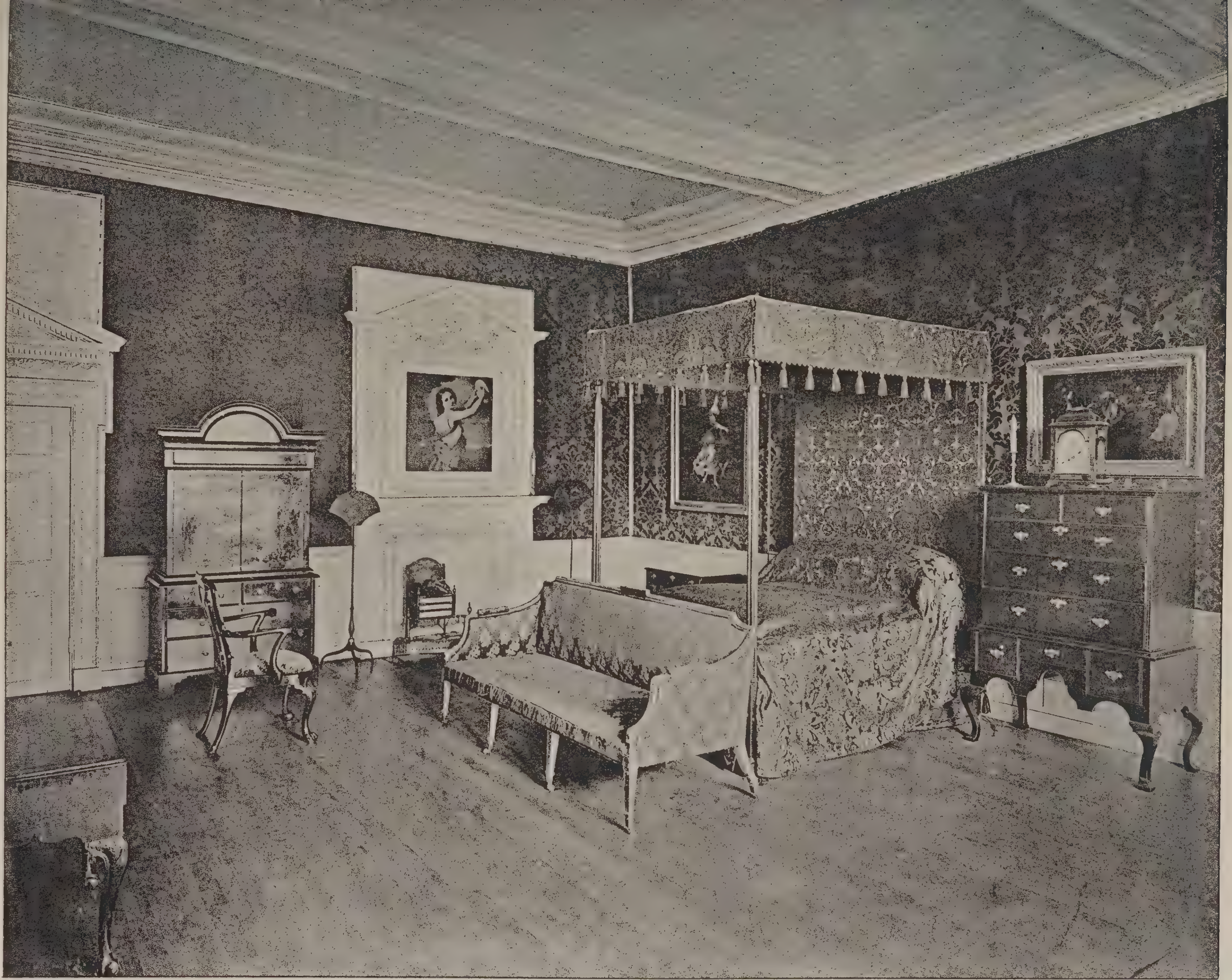

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THE "TREASURER'S HOUSE," YORK: PRINCESS VICTORIA'S ROOM.

(The Residence of Mr. Frank Green.)

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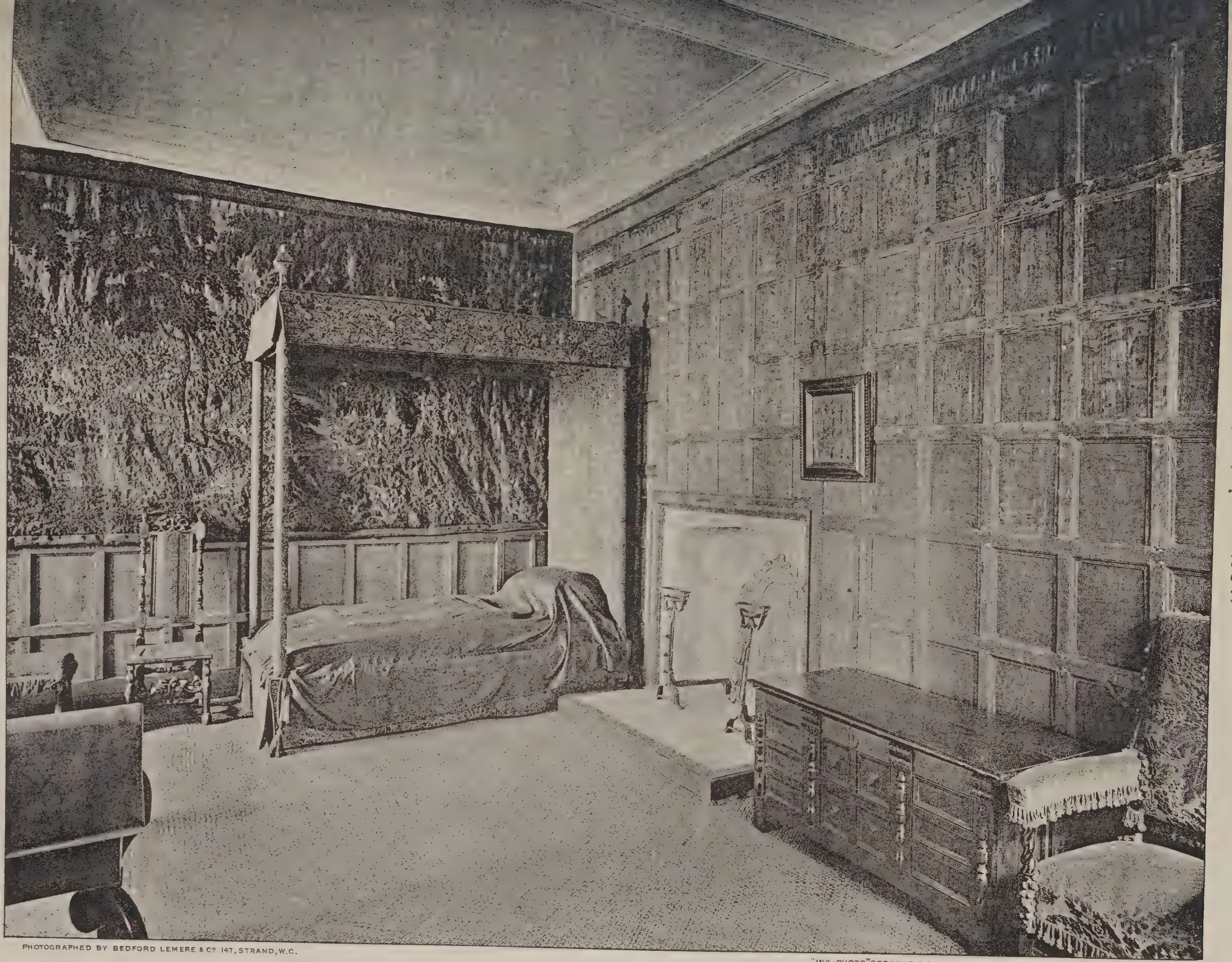

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THE "TREASURER'S HOUSE," YORK: TAPESTRY DRESSING ROOM.

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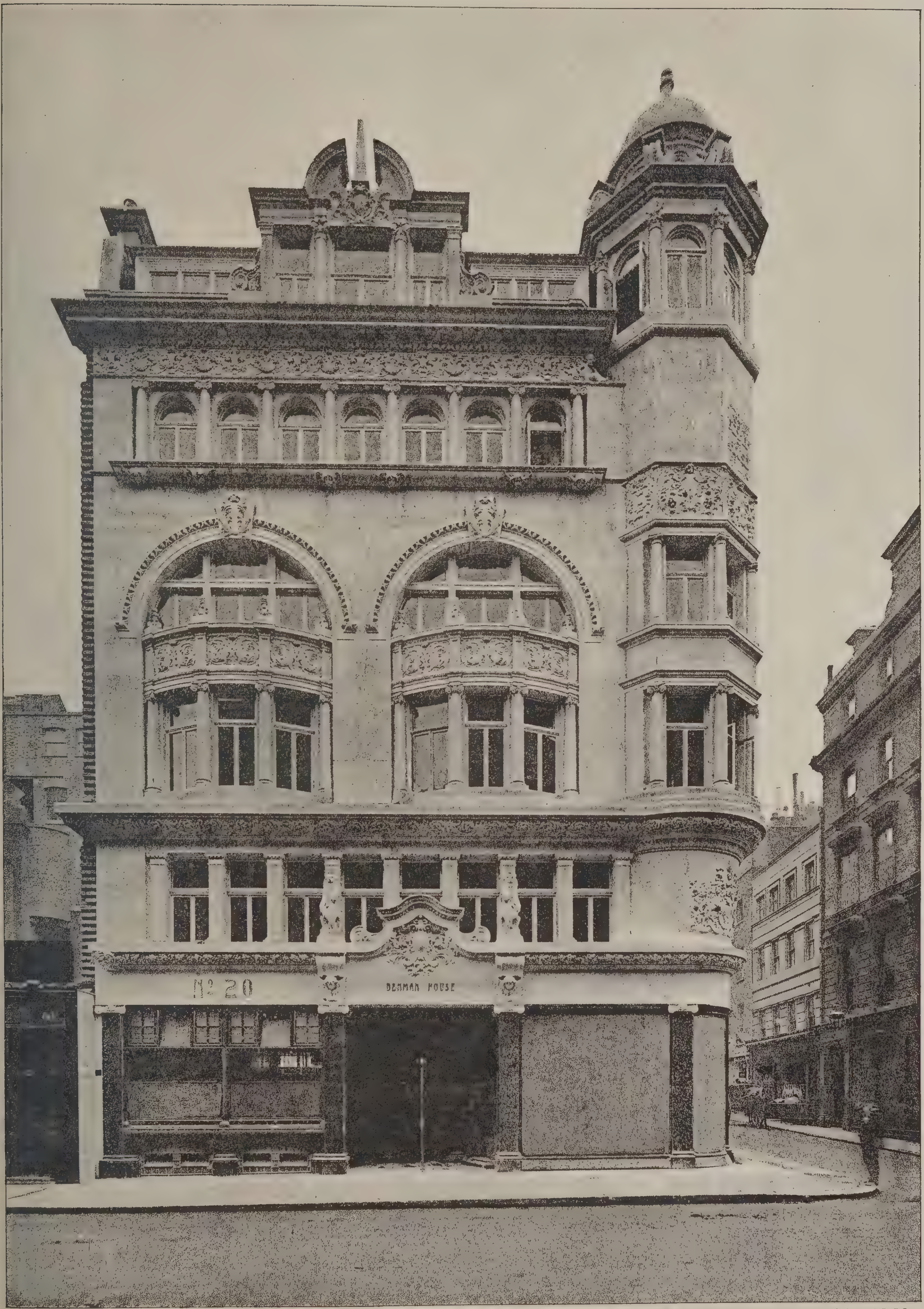

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DENMAN HOUSE, PICCADILLY.

HAROLD A. WOODINGTON, Architect.

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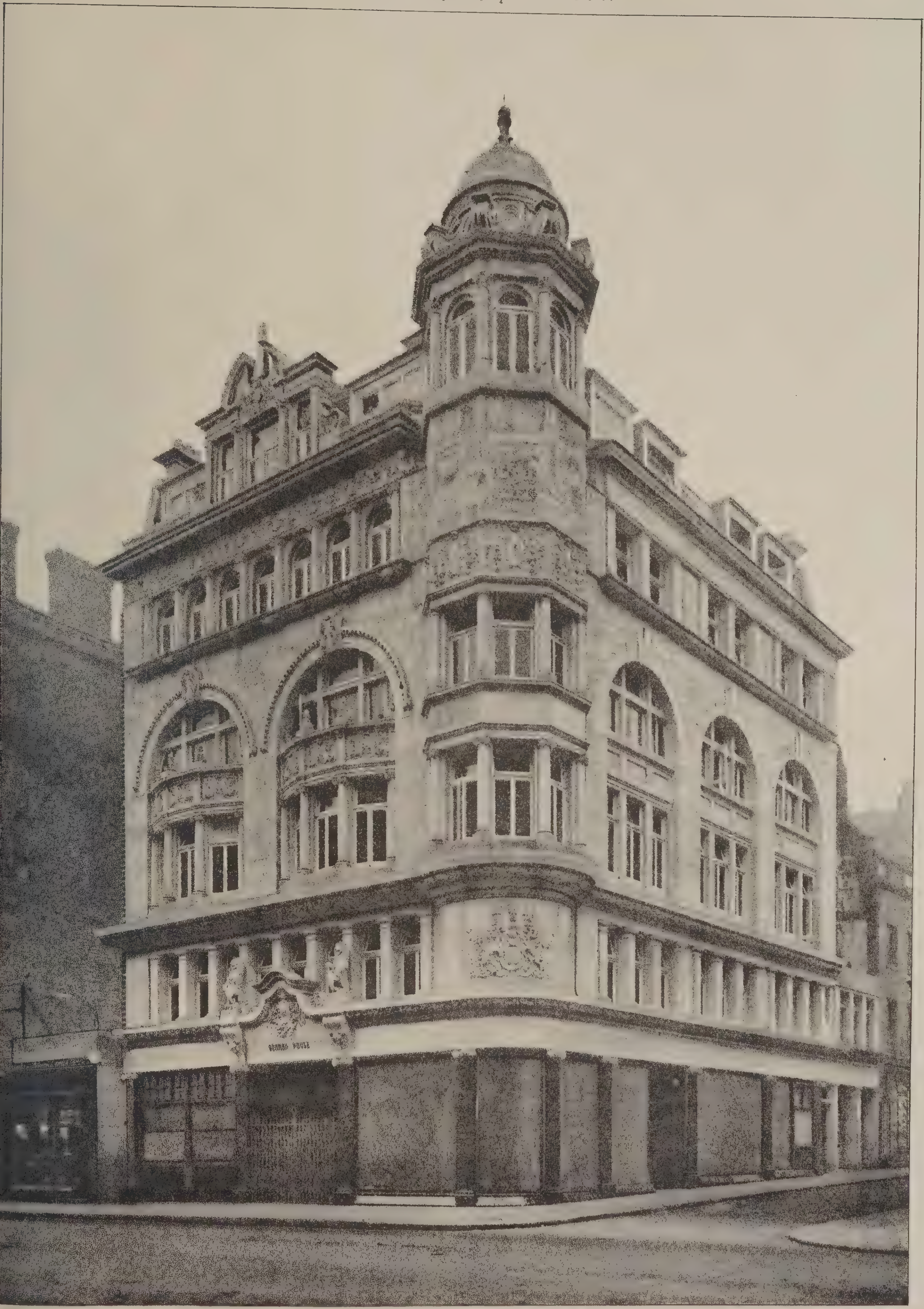

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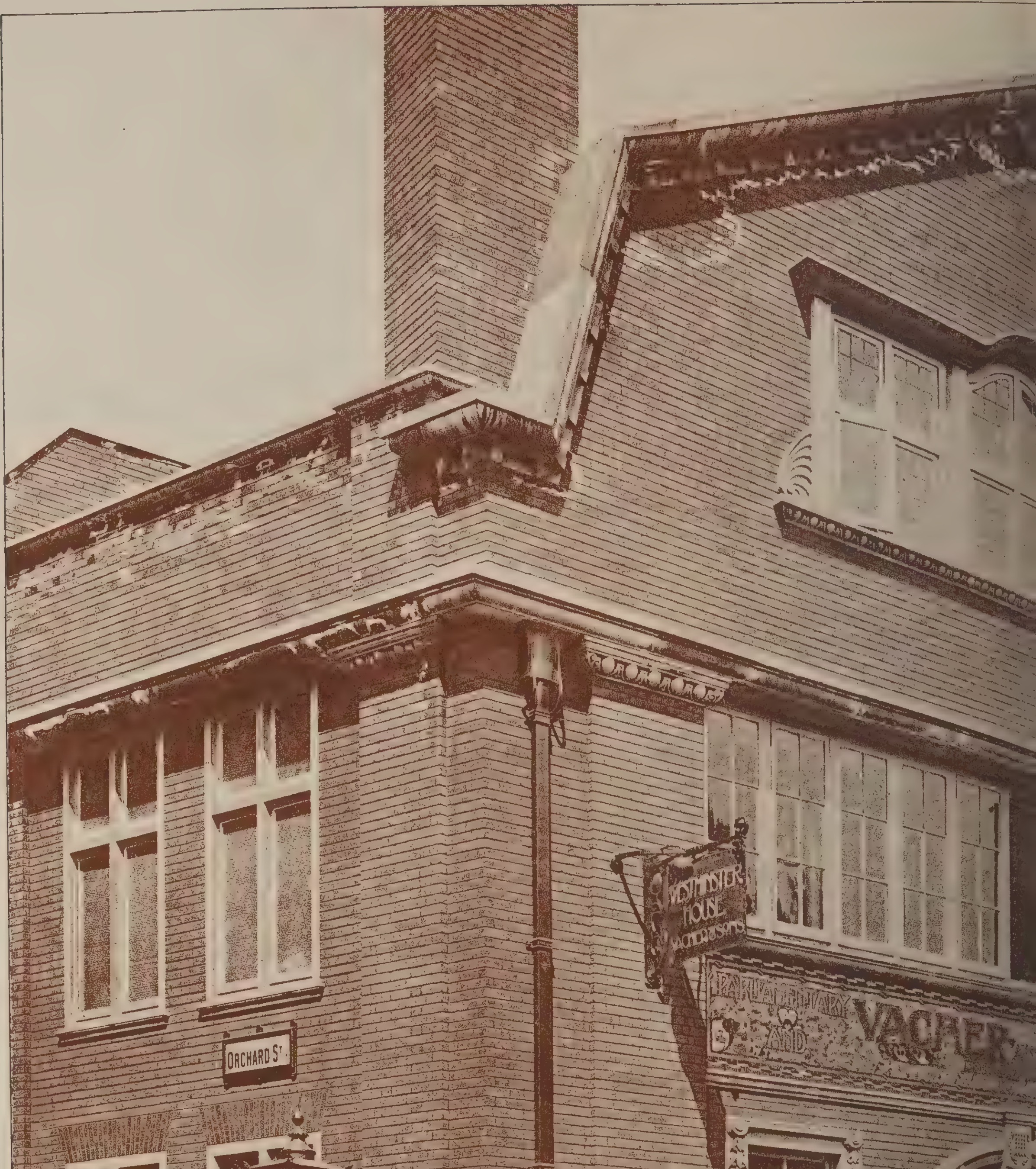

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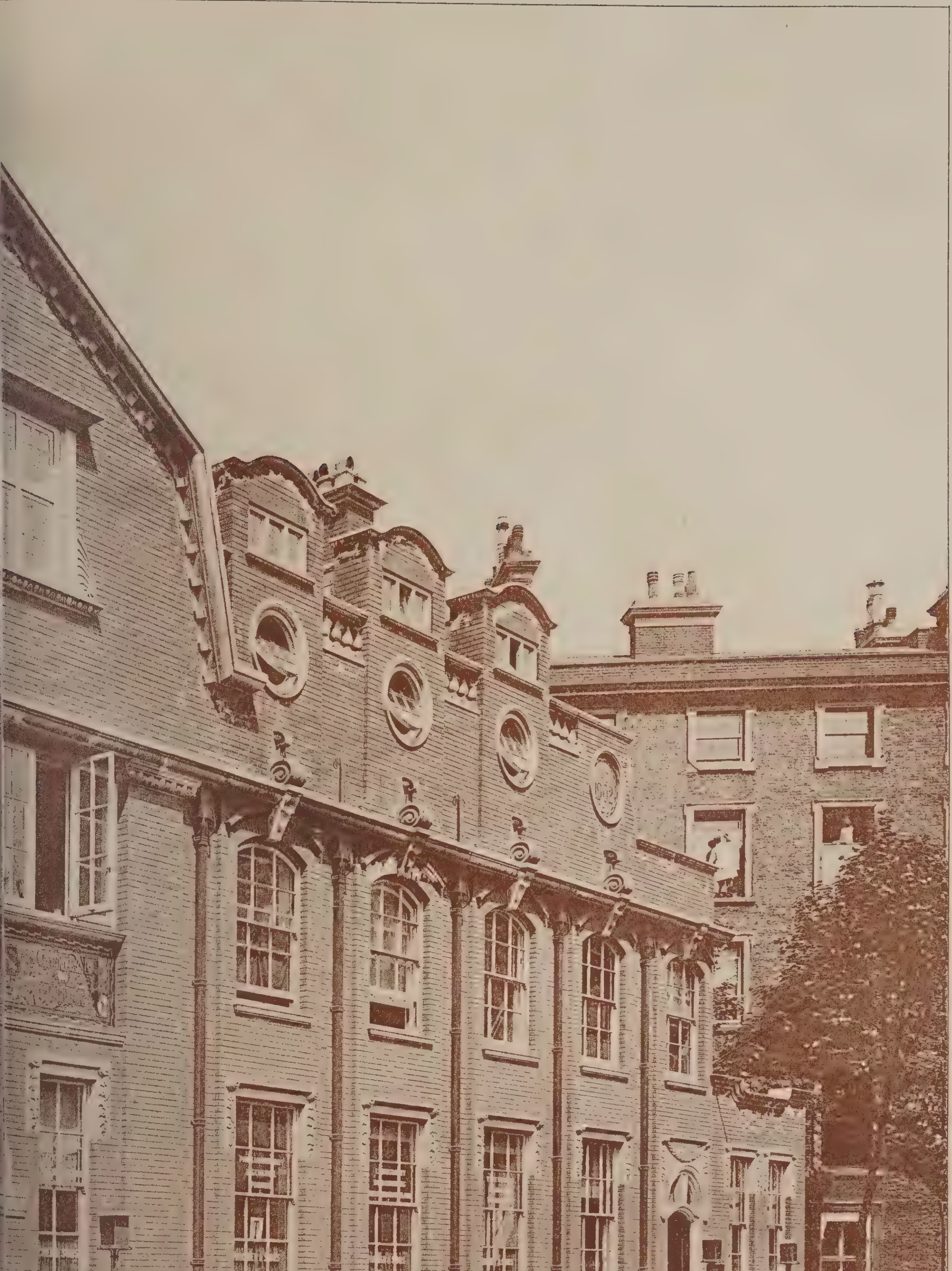

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STREET, WESTMINSTER.

R.B.A., Architect.

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The Architect.

THE WEEK.

There have been several cases in which the Courts found a difficulty in determining what is a house, and there is no more certainty on the point than on what constitutes a scaffold under the Workmen's Compensation Act. On Tuesday another difficulty arose over a definition, the subject being "an inhabited dwelling-house." What added to the interest of the case was that a surveyor of taxes was appealing against a decision of the Income Tax Commissioners. Everyone knows the house duty is levied at various rates from twopence to ninepence in the pound. Country houses, although they may be occupied for no more than a few weeks or months, are liable to the duty. The house in question was in Shanklin, and during the year 1900-1 it was not occupied for a single day. When the duty was claimed the owner maintained that the house could not be considered as an inhabited dwelling-house, and he appealed to the Commissioners. They are generally supposed to uphold claims, however exorbitant. But on this occasion they went against the surveyor of taxes. They held that if the Acts had referred to an inhabitable dwelling-house, then the owner was liable. But how could a house be said to be inhabited when not even a caretaker occupied it for a night? "To inhabit" was defined as "to dwell," "to live," "to hold as dweller," "to occupy for all purposes of life," or "occupied by inhabitants," and the Commissioners said they were unable to interpret the expression in any other way. The surveyor accordingly appealed. Mr. Justice Channell admitted the difficulties of interpretation. He relied, however, on a judgment given in Scotland, when the Lord President declared that:—"It is needless to say at this time of day that an inhabited house does not mean a place of residence—that habitation in the sense of the statute may consist of any kind of occupation of a house or building. If it be not unoccupied—that is to say, without any use made of it at all—then it is an occupied house within the meaning of the Act, and, being occupied, it is also within the meaning of the statute an inhabited house." From that Mr. Justice Channell inferred that for the purposes of the statute a house was to be deemed an inhabited dwelling-house if there was an occupier of it. The house was ready to be slept in by the owner or any one he might send, and therefore was liable to inhabited house duty. The appeal was allowed. His Lordship's judgment will not amaze surveyors, who are often consulted on such points. Empty houses are not charged with local rates. But it has been decided that a furnished house which is ready for habitation is liable to be rated as an occupied house, and the owner can claim no abatement because he may be unable to reside in it.

There is some alarm along many parts of the coast concerning the encroachment of the sea. In consequence fforts have been made to prevent the removal of shingle, which was of great use to builders and other contractors. t is supposed the Board of Trade is the supreme authority n dealing with such cases. But whenever inquiries arise it s found there are so many parties to be dealt with it is ifficult to prevent several actions arising in the Law Courts. On Monday there was one of these inquiries in Chichester. The Ecclesiastical Commissioners and Mr. Cruttwell, landowner, had applied to prohibit the removal of shingle nd ballast from the shores of the Chichester and Emsworth channels. But opposition was raised by other ndowners, wharf owners, barge owners, oyster merchants, hipowners and various local authorities. It was stated that etween 1875 and 1896, or, say, twenty years, the applicants' nd had been diminished from 406 acres to 368 acres. The Ecclesiastical Commissioners had expended 3,700*l.* on groins protect the land. It was calculated that during the past hree years from 30,000 to 40,000 tons of shingle had been emoved, although it was supposed to be the natural rotection for the land, and it was apprehended that, unless he removal was prohibited, the whole of the property in uestion would be carried away. On the other hand, it as shown that the removal of the shingle was an advantage for the Chichester and Emsworth harbours, for the entrance became much easier for vessels. It remains to be seen what decision will be given by the Board of Trade. The inquiry was held under the Harbours Act, and, at the present time, when everyone is desirous to give facilities for trade and commerce, the smallest harbour has its importance. Land is supposed to be of little value unless when it can be utilised as building sites. If the Board should consider the Ecclesiastical Commissioners have not made out their case, then we suppose it will encourage more activity in the removal of shingle.

The Memorial of the South African War in Manchester has been intrusted to Mr. Hamo Thornycroft, R.A. As far back as October last he was invited to prepare a rough outline of the work. The subscriptions to the Manchester Heroes' Memorial Fund were less than the committee anticipated, and a final decision was not arrived at. Subsequently there was a more liberal response to the appeal for money, and it was resolved that the memorial should take the form of a statue. It was realised that not more than 2,000*l.* would be available to cover all expenses, and it was suggested that under those circumstances other sculptors might be willing to endeavour to obtain the work. Six names were accordingly proposed, when it was found that eight members were in favour of Mr. Thornycroft, three for Mr. Cassidy, a local sculptor, and one for Mr. A. Drury, A.R.A. Mr. Thornycroft was asked to submit a sketch for such a statue as was desired, and having done so, his offer to execute the memorial for 2,000*l.* *in situ* was accepted.

One of the greatest blunders ever made in national politics was the neglect to turn the union between England and Ireland a into reality. If the Irish counties had been treated like English shires, and if Irish lawyers and judges could practise in England and *vice versâ*, and if every remedial measure applicable to England was also put into force in Ireland, there would have been not only an enormous saving of public money, but a thorough transforming of Ireland. What Ireland has lost can be exemplified in one way by a comparison between the Irish National schools and the Board schools of England. Entirely different ideals were adopted in the two countries. The English schools have many defects, but they are palaces if compared with those in Ireland. Quite recently one of the inspectors under the Education Department, Mr. J. H. Dale, was sent over to report on Irish schools. He found that the National schools were uncleanly, insufficiently heated, out of repair, unattractive, and in other ways deficient. He realised that the architectural standards on both sides of the Channel were unlike. The Irish schools have been following the models set up more than sixty years ago, and multitudes of unfortunate children must have suffered privations which would not be endured in England. There was no complaint in Parliament or elsewhere as to the condition of the buildings, for Irish agitators wish the people from their childhood to be able to have causes for disaffection. If the English inspectors of schools were allowed to periodically visit Ireland there would have been reforms. The schools correspond with much else in Ireland for which the English Government is held responsible, although Irish officials may be too indifferent or too weak to bring the defects under public notice.

According to the latest reports, the district of Baltimore which the recent fire may be said to have destroyed still remains as if there were dangers lurking amidst the ashes. The insurance companies have promptly settled the claims, but the money is lying unused in the banks. Restoration cannot be attempted until the city authorities decide whether there will be alterations in the streets or whether the former lines will be adopted. Architects cannot, in consequence, prepare plans for new buildings. Committees were appointed and reports prepared, but the authorities are seemingly afraid to act with decision. The example of Chicago and other cities has had no effect in Baltimore, although it might be known that a display of energy counts for much in America.

enough to bring on an attack of lumbago, and cabinets which are suggestive of sarcophagi are not well adapted to display bric-à-brac. We much prefer modern cast-iron fireplaces and chimneypieces to the utilisation of Pompeian forms which were not in any way connected with the diffusion of heat. If Messrs. Timms & Webb had confined themselves to the collection of specimens of all ancient work they could discover, their book would be of greater use. Their endeavours to turn them to account for the furniture of to-day may generally be taken as proofs that ancient models are not adapted to modern needs. It must be admitted that from time to time men have appeared who tried to work after the manner of the ancients. They were most successful when, like some of the designers of the French Imperial fashion, they imposed restraint upon their borrowings. As little success was attained in the endeavour to deal with Byzantine art.

Mediæval furniture cannot be regarded as entirely obsolete even by lovers of Classic forms. Pieces are still produced for use in churches, if not in ordinary houses. That period of art has been so well studied that, if by any chance the style were to come again into favour, there would be little difficulty in producing examples marked by the old spirit. Of all the styles of a former time it is the one which has most claim on English regard. Greek, Roman, Pompeian and Byzantine must always be treated as foreign. It is strange that only two plates are assigned to Gothic in Messrs. Timms & Webb's book, and there is no attempt to give new designs. This, we suppose, is an indication of the indifference now prevailing in the furniture trade, and which doubtless arises from the dislike of the public for the style. And yet, whatever may be its shortcomings in the eyes of admirers of other styles, Gothic style of furniture is that which is best adapted to display genuine workmanship and materials. It is not necessary to consider Moorish, Indian, Chinese and Japanese work. If furniture of the kind is desired genuine examples are imported at a far cheaper rate than would be demanded for imitations.

It is remarkable that "new designs" do not also follow the illustrations of later styles. We must therefore conclude that Messrs. Timms & Webb believe they are more competent to pose as Egyptians, Greeks, Romans and Byzantines than as Renaissance artists or contemporaries of Chippendale, Hepplewhite or Sheraton. Is it that they feel the majority of people are better informed about the last five centuries than about the first five or an indefinite time prior to the commencement of our era? Whatever the cause, the latter part of their volume will give more general satisfaction than that which relates to earlier furniture.

In the Tudor examples we can see that some concession was made to human weaknesses. The cabinets might display an excess of carving, but the chairs were auxiliaries to the enjoyment of ease. The Italians also permitted cushions in exceptional instances, but it must have been felt that many of the chairs were only intended to be looked at, and their beauty would be obscured by a sitter. Visitors were therefore tacitly admonished to make a short stay. With the Italians the eye was to be pleased regardless of any inconvenience which might be suffered. What was the use of cassoni—those elaborately painted boxes? Vasari tells us that in the fourteenth and fifteenth centuries "it was the custom for all citizens to have large coffers or chests in their chambers made in the manner of a sarcophagus. There were none who did not cause these chests to be painted, and in addition to the stories which it was usual to depict on the front and cover of these coffers, the ends and frequently other parts were most commonly adorned with the arms and insignia of the respective families." The examples in the South Kensington Museum and in Continental museums are in a remarkably brilliant condition, and will bear comparison with illuminated manuscripts, although the latter are generally preserved from atmospheric influences. The cassoni occupy space. In many instances they have been taken to pieces and the sides exhibited as if they were panel paintings. When they appear in exhibitions the oil paintings near them have to suffer. The Italian examples possess usually an architectural character; the arts were so diffused that even cabinet makers must have acquired a knowledge of architectural principles.

It cannot be asserted, however, that the architectural spirit is always manifest. The pictures on the Italian coffers became more attractive than the work of the joiner. Surface decoration of different kinds was likewise employed for furniture. The result was that form in course of time ceased to have its rightful importance, and with many famous pieces of furniture it will be found that if the decoration is ignored the work itself will excite little interest. French as well as Italian Renaissance furniture affords an abundance of instances, and we need not say that in our Tudor and Elizabethan work the same spirit prevails. In the eighteenth century Hepplewhite, Sheraton and the Adams sometimes strove to make form supreme, but they had to succumb to the desires of the public and to avoid plainness. With all its faults, the so-called L'Art Nouveau appears to recognise the advantages of having fine contours consisting of continuous curves. There is not always a sufficient contrast with right lines, but the endeavour is to avoid breaking the graceful sweep of a curve. The outlines are not derived from architectural examples, nor is it always desirable that a piece of furniture should be a reproduction of some feature which has found approval in a building. As the majority of ornamental forms are traceable to plants, it is consistent that the work they adorn should likewise be suggestive of lines which have also their origin in nature. No style more easily admits of exaggeration than L'Art Nouveau. But for such defects common sense can provide a remedy.

We have been induced to write at greater length than we intended, but the numerous examples in Messrs. Timms & Webb's book can become themes for varied reflections. It presents more examples of the fashions in furniture than any English book with which we are acquainted. The majority of the examples are no doubt familiar to all who have studied the subject, but it would have been an advantage for young students if the titles of the pieces and materials, and where they are to be found, had been given.

UNIVERSITY EXTENSION AND ARCHITECTURE.

A CONVERSAZIONE was held on Friday evening at the University of London, under the auspices of the Central Association of University Extension Students. The evening's success will be encouraging to the Association in the work it is doing in developing and furthering the University Extension movement.

At the commencement of the proceedings the chairman, Mr. Mark H Judge, read the following letter from the president of the Association, Lord Reay:—

"I can unfortunately not be present to-morrow evening, but I wish to state how thoroughly I approve of the attempt to include the study of history with literature and art in the courses of lectures. As pointed out in the address of Mr. Max Judge on the Association and the humanities, this study is stimulating, and will afford students the guidance they require in order to understand the world in which they live. It will enable them to arrive at a well-considered judgment on matters of importance to the present generation by the knowledge acquired of the history of their own country and of other countries. They will avoid rash conclusions because the study of history will have given them an insight into the complexity of human affairs. I believe that the summer courses, which are open to foreign students in England and to English students abroad, will be useful in promoting a better understanding, of which the recently concluded Agreement with France gives a brilliant illustration The study of history is essential in dealing with the problems in which all members of the community are directly interested."

Short addresses were given by the following lecturers on the panel of the University Extension Board of the University of London, in general descriptive of their work in the coming term:—Mr. Hilaire Belloc, on "The History of London"; Mr Banister Fletcher, F R.I.B.A., on "Architecture and the Humanities"; Major Martin Hume, on "The Influence of Spanish Jews on European Culture"; Dr. Emil Reich, on "General History," "The University Extension Movement in Relation to Women," and "Reasoning-Proofs in Historical Sciences." Refreshments were served in the library, and the evening was concluded by a well-appreciated programme of music provided by the following artists:—Vocalists, Miss Minnie Tracey and Señor Guetary; violin, Herr Franz Meisel; 'cello, Señor Rubio; Mr. Raphaël Roche at the piano.

Mr Banister Fletcher's address was as follows:—

Architecture and the Humanities.

The connection between architecture and the humanities is one of the most entrancing and interesting of subjects, inasmuch as throughout the ages architecture has been the mirror of history of each period, and has been an index to the social and political condition of the people swayed by those great religious and historical events which serve as landmarks in the history of mankind.

As we glance along the perspective of past ages we can find in the buildings of each period a lithic history, which tells us of conditions of existence perhaps more truthfully than those written by man in more perishable materials. Architecture, then, may be said to be inseparable from and the result of history, because the work of man in each period is before us as we look upon the mighty structures of past civilisations As we open the book of architecture we can tell of the condition, hopes, fears, and the very thoughts of the men who made it as certainly, if not more surely, than by the contemporary written chronicles of each period.

The historical study of architecture has principles and special evidences of its own that enable one to interpret the moral, artistic and religious character of humanity, and a special insight into the profoundest characteristics of a people is to be obtained by a study of the remains of their buildings. Architecture thus being not only the reflection of, but, more properly speaking, itself one of the humanities, or a petrified history of each period, let us look at its place in the educational system of the day, prefacing our remarks with some reasons why a detailed study of its systems has not been included in past educational schemes.

Firstly, we think that its absence has been largely due to its technical nature, and to the belief that it was impossible for the lay mind to grasp its forms and the constructive principles of which it is the outcome. There seems to be no other valid reasons to account for the fact that the educational door should have been shut for so long upon so entrancing a subject. But probably a stronger reason was the inability to discuss the subject from the educational point of view because of the absence of illustrations. To talk of architecture to the layman without adequate views and plans is like reading a play instead of witnessing it upon the stage with the actors. And this lack of illustration and difficulty of presentment must have been a great deterrent, which in these days no longer exists. The possibilities of the inclusion of architectural history in any scheme of liberal education seem to be rendered more easy and more necessary at the present time for many reasons. The open-mindedness and progressive tendencies of certain modern educational authorities, of which the London University is an example, have already provided for courses of lectures on various periods of architectural history, and the attendance at these must have shown the authorities that they have catered for a much-needed want, in spite of the fact that the lectures are given without any relation to or cohesion with the general history of the period. The facilities for travel, which in these days have been much improved both from the point of view of comfort and the shrinkage brought about by the universal introduction of steam, petrol and electricity, have done much to arouse a genuine interest in architectural works erected in past ages. The personally conducted educational expeditions which are a feature of the age are also largely responsible for the desire to know something of the forms of art which are thus brought more prominently before travellers. Photography has also been an important factor in interesting a large section of the community, especially of the travelling and educated public, in matters of art and of architectural history, and has caused a desire for a knowledge of the subject which can only be obtained by attendance at lectures in which it is systematically dealt with. The general spread of education in matters of art has caused a yearning for some knowledge of architectural forms by those who travel, and by the *dilettanti*, unprovided for by any educational scheme yet in vogue.

As to the class of persons for whom I am appealing—I am leaving out of the question the professional architect, for whom, of course, it has long been held necessary to have intimate acquaintance with the styles of his art in past ages—I would include every person to whom a liberal education is a necessity, not as a means of gaining a living, but as being able to enjoy to the utmost his daily existence, and in giving to him an additional interest in the history of past ages. I have touched on the facilities for travel which exist in these days, and this it is which has aroused such an interest in the history of architecture and the allied arts among so many people who are continually moving about in quest of interest and change. There is no way of reaching such people except through lectures such as those of the University Extension movement. To them the ordinary college technical course is of no avail for many reasons. For the travelled and cultured class you must bind up your architectural results with the causes—geographical, geological, climatic, religious, social and historical, and you must show more clearly than you can in a technical course for young students the intimate connection of all these influences upon architecture.

It is not necessary to dwell here upon the need for some systematised courses of lectures, for it is nothing less than pitiable to discover the unsatisfied desire for knowledge which exists, especially among the educated and travelled classes. To the majority architecture is a sealed book; people wander amongst the most beautiful and most soulful creations of the past, and are unable to appreciate either their meaning or their qualities. To them form means nothing, and a Grecian temple, a Roman amphitheatre or a Gothic spire recalls none of the conditions which rendered each a reflection of its own period in history. Therefore the inclusion of architecture in any systematic course seems essential, and it will give to those who study it, even in a superficial way, a general ground plan of the arts of form and of the trend of humanity in past ages which is very necessary to a proper and complete comprehension of history. It will also give additional pleasure in travelling, and an interest in the great works of architecture because of the knowledge which it will give of the place of each work in the evolution of art.

It has become the fashion to know something about pictures, to talk with an air of knowledge about the various schools of painting and sculpture, and of the galleries in which you will find them; but has it ever struck us that with a knowledge of architecture the world is our picture gallery; indeed, every street is a gallery where one may enter without so much as a payment of an entrance fee? Then of the buildings. Have they not been erected by the general mass of the community in past ages; are they not in the highest degree human? For we see the marks of saw and of chisel made, may be, hundreds of years ago, still telling us of methods of construction, methods of craftsmanship, methods of design, and methods of thought and life then prevalent. But in addition our free gallery of buildings varies with the day and time of year; sometimes we see our buildings in the haze of early dawn or in the full flood of noonday sun, at others in the dimness of twilight or in the weirdness of a moonlight night. We want no special lighting for the works of the architect, which are a setting also in their highest flights for the works of sculptor and painter, and in the change of seasons we get that variety which gives them life.

In considering the enjoyment we get from the study of an old cathedral and the influence of a beautiful building upon all who pass and repass it daily, we must not forget the effect of environment, and the sentiment of age which gives colour, interest and texture to the walls and lichen-covered roofs. By environment we mean not only the position of the buildings on some specially interesting spot, but the environment of the period in which the building was erected, viz. the history of that period and of the people who helped to erect the structure; for if we study either architecture or history aright we must get into the "atmosphere" of the period. Truly it may be said that history has been to architecture what steam is to machinery, the grand propelling power, and again, that architecture has been the printing press of all periods.

If there be any one of the fine arts more particularly entitled to the attention of the general student, that one surely is architecture, because it calls into action so many and such various branches of mechanical labour, and because, operating thus extensively upon national history, it also promotes national prosperity. And consequently the dissemination of a taste for it among the middle as well as the more opulent classes of a state is to be recommended no less by sound policy than by a regard to more direct and more obvious results.

Is it not therefore time, in these days of enlightenment and in the interests of true as against superficial education, to provide for the study of architecture and its history in the curriculum of the education necessary for every man, woman, and child? Is it not the art that shelters us from the elements, and with which we must be brought in daily contact, the art which gives us what we call "home," the art that enshrines and illuminates the most sacred of our associations, the art that has been and is the outcome of conditions intimately bound up with the history of the human race, the art that forms the home and fashions the ornamentation of our religion, which it aids by the mystery of its light, shade and colour? Finally, is it not the art which is the mother of all arts? for from it sprang painting, sculpture and all the arts and crafts of succeeding ages of development.

A final word just to say that no student will ever regret the time spent in the study of such an enthralling subject, for every ruin which he now regards with blank amazement will then tell him of the history of other days, and will enable him to conjure up the character of the men of the period in which it was erected, and will open wide to him the enjoyment of contemplation of forms of which he will then know the meaning.

The Society of the Antiquaries of France celebrated on the 11th inst. the centenary of the foundation. During that period the volumes, consisting of communications by the members, have acquired much interest in France and elsewhere.

EARLY PAINTERS IN WATER-COLOURS.

ENGLISH landscape painters previous to Wilson and Gainsborough looked at their native mountains, woods and plains, at best, when they studied at all, through the spectacles of foreign masters. On that account their pictures have very slight pretensions to approbation, as they will not bear a comparison with the works of living artists, who regard nature through the medium of their own eyes.

Havell, however, was not contented with an occasional trip from London to snatch a new hint, by hastily sketching from real scenes, to work them into pictures after his return, at perhaps some distant period too, as many had done before. He wisely determined to move to a picturesque country, wherein, on some chosen spot, he could sojourn awhile, and at leisure contemplate nature under the changes of each season, and attired in all the varieties of her rich wardrobe. He selected the beautiful region of the lakes in Cumberland, and took up his quarters in a domicile surrounded by mountains, rocks, woods and waterfalls, where the incidents of sunshine and cloud—where gilded morning mists and sober evening shades—are exhibited in the endless combinations of pictorial and poetic effect, such as the richest imagination might vainly attempt to conceive, but were therein realised. Here he studied for nearly two years, when he returned to London with rich stores of lake and mountain scenery, from which for several consecutive years he enriched the Water-Colour Exhibition, increased his own fame, and contributed to raise still higher the reputation of his department of art.

Amongst these Cumberland views some were remarkable for depth of tone and harmony of effect, and nearer to reality than the landscape compositions of any of his compeers. Indeed, the richness and intensity of colouring, as displayed in his best works, suffered nothing in comparison of effect with paintings in oil; a consequence that resulted from his continual practice of making coloured studies of effect on the spot. His drawings, though broad in effect, and bold in execution, yet were highly wrought, being the result of continuous observation, careful study and much labour; indeed, it were not possible to attain equal richness and harmony without such exertion. These qualities are alone to be effected by reiterated touching, tinting or glazing; for it is in water-colours as with oil-colours, deep-toned pictures require much time to accomplish. Teniers, it is evident, painted at once from a simple palette, and worked with celerity; there is a lightness, clearness and masterly dexterity of execution which testify the expedition of his pencil; but he aimed not at richness and depth of tone. His pictures appear to be an off-hand transcript of what he saw, transferred at once to his panel, the result of practice without an effort of art. Ostade, on the contrary, wrought with another and perhaps a superior feeling; he aimed at the depth and glowing richness of Titian. Both were admirable masters in their way; but Teniers, without doubt, could have painted ten pictures within the time which Ostade would have required to paint one.

Certain professors of water-colours, who prepared their compositions right through with black and grey, however bright the effects which they may have brought forth by washing the colours over such a general and unvaried preparation, were properly denominated draughtsmen or tinters; not by way of reproach, but from the comparative mechanical ease of their mode of practice. Turner, Havell, Varley, Hills, the Westalls and others, who commenced by laying in the local tints at once, and advanced their designs with corresponding shadows, may fairly lay claim to the character of painters in water-colours Those who worked by the afore-mentioned mechanical process consequently executed their designs with ten times the despatch of those who painted their compositions.

That richness of style which Havell aimed at, and which he so successfully accomplished in water-colours, could not possibly have been effected by the old mode of practice. The new process was a discovery which originated with Turner, and was performed by taking out the lights with bread. The process was simple in its means, but required skill in the management. The principal masses, according to this practice, are laid in with all the effect which local colouring can give, similar to that of oil painting, but the finishing is totally different, as the lights, instead of being painted on, as in oil, are really taken out. The local effect then is thus laid in up to the finishing with the high lights, the forms for receiving which are produced by taking clean water in a camel-hair or sable pencil and touching with the same all the parts destined for the lights, upon which a soft silk handkerchief is pressed, taking care not to spread the water. The handkerchief, after absorbing the water, is removed, when the parts wetted are dexterously swept over by a bit of bread (not stale) pinched to a pellet, which removes the colour and leaves the lights clean and sharp, and in a beautiful state when dry for receiving the glazing tints Later practice has generally superseded the use of bread.

When this process is executed with judgment and with a masterly hand it is effective for the touching of foliage, the bark of trees, the broken surfaces of stone, brick, plaster, and for figures and various other objects in topographical or landscape composition. It had so peculiar and rich a character, that when Turner's magnificent effects of light, shadow and texture, aided by this process, were first exhibited, all the painters were puzzled to find out by what art he performed this graphic magic.

It rarely happens that the talents of men, however great they may be, are duly appreciated by their contemporaries. Some few indeed have had the felicity to be an exception to the rule. Girtin, one of the greatest geniuses that ever practised water-colour painting, made but little of his art. The dealers, however, who happened to possess his works, benefited by his death; as his drawings suddenly rose in estimation, and, continuing to be sought with avidity, they were purchased at almost any premium that was demanded. Turner, his contemporary and rival, experienced a better fate. His works were more carefully wrought and consequently more generally understood. His reputation was soon acquired and has steadily increased. Always improving, patronage step by step followed his exertion and his transcendent genius is never likely to be doubted. From the period when these two artists thus raised the reputation of this new species of art a school of painting in water-colours has arisen, which is not only an honour to the country, but a prominent characteristic amongst the intellectual improvements of the age.

Turner was well grounded in perspective under Malton. Girtin became an adept in the same science under the tuition of Dayes. Malton and Dayes were topographical draughtsmen. Their pupils soon left their preceptors in art an immeasurable distance behind. Dr. Munro, the contemporary of Reynolds, Wilson, Gainsborough and all the founders of the Royal Academy, and long reputed as an amateur artist and great collector of drawings, was, in no small degree, instrumental to the two youths, particularly to Turner. The doctor's collection, which contained some of the choicest works of Gainsborough, Cozens and Hearne, was open to them; and they, with a laudable spirit of competition and an ardent love of their profession, availed themselves of the advantage. Many copies made by Girtin and Turner, under the roof of this gentleman, whilst they were yet considerably short of the age of manhood, were so admirable for freedom and correctness, that they were not unfrequently preferred to the originals from which they had been taken. Amongst other specimens of the talent of Turner was a drawing rendered into colours by him, from a very slight sketch by Gainsborough of a *Group of Travellers Reposing*, which was replete with mastery and feeling. It was, indeed, Gainsborough completed by Turner; as Gainsborough, had he known the power of water-colours, would, in his happiest mood, have perfected his own work.

Thus proceeding, and having acquired a knowledge of the executive department of drawing, the youthful artists, like Claude, the Poussins and the illustrious landscape painters of old, sought nature in those recesses where she most loves to hold communion with her votaries, whether painter or poet, and copied her in her native beauty. It should be observed that the phrase "studying from nature" in the sense with which it is applied to this art implies the drawing or painting of animate and inanimate objects, whether natural or artificial, from the objects themselves, in contradistinction to copying them from the works of other artists, from memory, or from description, and herein consists the main difference between painting and poetry.

To paint successfully from nature, according to this acceptation, the artist must not only have an accurate knowledge of the form but some acquaintance with the structure of the object represented: not essentially so with the poet. To describe a storm at sea the poet carries the imagination of his reader up mighty waves in his labouring barque, and hurries it down again into a fearful abyss of waters; yet, however finely he renders his description, he may not have seen a ship or have been within sight of rocks or waves. The painter, however, must not only have witnessed the ocean in its rage, and the vessel borne upon its foaming surface, but have studied the colour, form and texture of the liquid element, and know the structure of the mighty piece of moving architecture that awfully rolls along.

Turner's commencement from nature was the depicting scenes whose principal features were remains of ancient architecture. His earliest topographical drawings had all the correctness of Hearne, with an endeavour to superadd that which his prototype did not attempt—the representation of local colour. His first efforts, though somewhat crude, gave presage of his future superior feeling, for every stone and brick and tile on his buildings were varied in their respective tints. He had already learned to read nature

Girtin was proceeding with the same observant eye to nature, and equally attentive to that captivating quality, local colour. The two artists emulous without envy, were developing new properties in the material in which they wrought their elegant imitations of what they selected, and raising the practice of water-colours, which had hitherto procured no higher title for the best works of the professors thereof than that of tinted drawings, to the rank and character of paintings in water-colours. Thus improving rapidly, as by inspiration, whilst yet young men, they achieved the honour of founding that English school, as it now stands recorded, the admiration of all enlightened nations.

It might be supposed that similarity of study at their commencement, and the apparent affinity of feeling for their art, would have led the young painters to practise in a similar style On the contrary, nothing can be less like than the drawings of Turner and Girtin. We do not force comparisons, but their works are frequently as remote in general character as those of Salvator Rosa and Claude de Lorraine.

Girtin made his drawings, with but few exceptions, on cartridge-paper. He chose this material, as his object was to procure a bold and imposing chiaroscuro with splendour of colour, and without attention to detail. Some of his happiest productions display these qualities united with magnificent effect, and certain of his topographical views are treated with an originality of feeling that cannot fail to captivate the artist and the connoisseur. Many of his works, however, betray a carelessness of execution which requires somewhat of prejudice in favour of originality to tolerate, or sometimes even endure. It may, indeed, be said of his works, as of those by Richard Wilson, that they were not generally admired, because their merits were only felt by those who were competent to judge of the abstract perceptions of a great and original artist.

Turner's mountainous scenery was oftentimes treated with the grandeur of effect which was to be expected from an attentive observer of those sublime appearances, created by storms and vapours, which occur in those elevated regions. He was one of those daring imitators of nature who ventured to represent a mass of mountains dark and darker still as they receded into the distance—a figure of painting which none but the most poetic mind would presume to introduce into a pictorial composition. The flatness and freshness of verdure with which he described the valleys extending to the basis of their surrounding heights, he imitated with a felicity that perhaps has never been exceeded. The distant herds, too, which he introduced grazing on these plains were like what are seen in nature when a gleam of light penetrating a parting cloud has displayed them as so many gems glittering on a velvet mantle of vivid green.

Girtin's admirers tolerated a defect in certain of his drawings, which proves how much allowance the enthusiastic amateur will make for the sake of genius. The paper which he most admired was Dutch cartridge, with slight wire-marks, and folded like foolscap. It commonly happened that the part which had been folded when put on the stretching-frame would sink into spots or expose the transverse line across the picture, so that where the crease appeared the colour was some degrees of darker blue than the general tone of the sky. This unsightly accident was not only overlooked, but in some instances relished in the true spirit of dilettanteship, inasmuch as it was taken for a sign of originality, and in the transfer of these drawings from one collector to another bore a premium according to that indubitable mark.

THE ROMAN FORUM.

THE Rome correspondent of the *Times*, writing on the 19th inst., says:—

Commendatore Boni made a discovery of very curious interest this morning when he laid bare in the Forum what there is every reason to believe to be the site of the monument which is so often referred to by ancient authors as the Lacus Curtius, and was supposed to stand on the very scene of the Curtian legend. As Ovid says (Fasti vi, 403-4):—

> Curtius ille lacus, siccas qui sustinet aras,
> Nunc solida est tellus, sed lacus ante fuit.

What was uncovered this morning was a platform, in shape trapezoidal, measuring 30 feet by 20 feet, and situated about the middle of the Forum, close by the north side of the Basilica Julia, only a few feet to the west of the base of the equestrian statue of Domitian discovered last year. This platform is paved with slabs of travertine, and contains a well 10 feet in diameter, and a slightly larger basin, both of them lined with huge blocks of tufa. Platform, well and basin are all surrounded by a low parapet of travertine.

The original monument, which must therefore have stood in the centre of the Forum, and is frequently referred to by Latin authors as a symbol of Roman patriotism, is described more or less fully by Dio Cassius, by Livy and by Statius in his account of the equestrian statue of Domitian Varro, Valerius Maximus, Dionysius of Halicarnassus and others also write of it, and Suetonius (Augustus, cap. 57) relates that it was the custom for all the orders in Rome to make votive offerings on this spot once a year. Of these annual offerings Commendatore Boni now hopes to find some trace; they should extend at least as far back as the year 362 B C. It would probably be too much to hope that geological examination of the spot might throw any light on the origin of the legend of the Curtian Gulf.

TESSERÆ.

Pilasters and Columns.

PILASTERS must not be regarded as imitations of columns, as they owe their origin to the necessity of giving more solidity to the walls of the cella (the part enclosed by walls, and sometimes called naos) of Grecian temples, in which they were originally used merely as supports, without either base or capital. Subsequently, in order to give pilasters more elegance, as well as to ornament the walls of the cella, a base and capital were added to them, differing, however, from those of the columns with which they were connected. The Romans were the first who gave the same base and capital to pilasters as those of the columns behind which they were placed; and modern architects have not only followed this practice, but have given them the same proportions, ornaments, names, &c., as are given to the columns with which they are associated. The Romans frequently entirely detached the pilasters from the wall against which they were placed, and as frequently employed them without any columns being placed before them; they have also used them in a variety of ways in connection with insulated columns. In some of the best modern examples pilasters have their bases, capitals and entablatures the same height as those of columns; but, while the proportion is the same as regards the height of capitals, the breadths are different, and the development of the form of a pilaster gives a greater space to each of its faces because it is quadrangular.

Fitness in Architecture.

If we would perceive in what manner the principle of fitness has given rise to the various members of architectural composition we have only to refer to the remains of Egyptian monuments as the most venerable for remote antiquity; remains which, while they display the exemplars of classic taste, afford a grand picture of the power of art when even emerging in its simplicity from primitive rudeness. Looking back through these to the first invention of column and entablature we see the builder of the pristine temple adopting in the construction of his ponderous supporting masses somewhat of a cylindrical form, so that his pillars shall present no angles to impede the way, arranging them in a row and giving them such a height as his unpractised judgment may deem calculated to afford a covering of sufficient loftiness for the area to be enclosed, having first ensured their stability by giving them that expansion at the lower extremity for which he would hardly need to seek an example from nature in the spreading root of the tree or the widening base of the rock. In thus forming his line of columns he finds their distances from each other necessarily limited by the length in which he may have been able to procure blocks to lie upon and connect their summits. Hence his intercolumniation becomes fixed at a lofty proportion since his columns must rise to the height of a spacious avenue or chamber, while they remain confined as to relative distance by the nature of the material which they have to sustain. These columns being raised, he places on the head of each a cubical block, the top of which, by being left square, may afford a broader bed to the superincumbent mass, while its lower side is reduced to a circular form corresponding to that of the shaft, and hence a simple capital. This done, he proceeds to connect the top of each to that of its neighbour by a series of blocks laid horizontally, of a depth and thickness nearly equal to the upper substance of the columns, forming thus his epistylium or architrave. Before, however, any space can be enclosed, the whole operation must of course be repeated (unless the equivalent of a wall be adopted) by the erection of another line of columns behind the former, with similar capitals and epistylia, and the only part of the task then remaining is to form a covering across from one line to the other by means of large slabs of stone of depth suited to their surface, and which, being allowed to overhang the rest of the work, will extend the area of shelter and preserve the rest of the masonry from the effects of the weather, thus becoming a kind of cornice. In these parts, therefore, without any attempt at decoration, we obtain upon the first and most obvious principle of constructive fitness and constructive expression an order of architecture; rude, indeed, but complete in all the members used in Egyptian practice, which did not exhibit anything perfectly analogous to the remaining portion of the Greek entablature, the frieze.

Mr. Aston Webb, R.A., in association with Mr. T. Manly Deane, R H.A., will be the architects for the new College of Science which is to be erected in Merrion Street, Dublin.

NOTES AND COMMENTS.

The tragic death of Bassile Verestchagin, who was among the victims of the explosion of the *Petropavlovsk*, is to be deplored. Nevertheless it was in keeping with what may be called his mission. Other painters endeavour to suggest the pride, pomp and circumstance of glorious war. But the Russian was desirous to present its horrors, and it must be admitted he went far beyond Callot in his paintings and drawings. He was born to be a revealer, and as such his right place was in Russia, where more deeds of darkness are perpetrated than in any other part of the world. He cannot, however, be considered a great painter. He was too much of a realist to care about composition, and some of his scenes were more suggestive of nightmares than of actual life. He was a courageous man, for as he was ostensibly on the staff of one general or another he had to avoid giving offence to the authority. The most terrible consideration was that scenes which shocked the people of other countries were regarded with indifference by his countrymen. The contrast between his Russian and Indian scenes was remarkable. He evidently tried to find tragedy in the Eastern Empire, but although tigers and vultures were seen to be on the point of attacking their victims, the general effect was entirely different from the pictures of Russia.

In Berlin it is considered by various officials that the old Opera House should be removed, but the Architects' Union have taken up the defence of the building. It should possess historic interest for Germans. The part of the city in which it stands was laid out according to the ideas of Frederick the Great. The Opera House was to be one noteworthy object, and the University, Museums, Library and other public buildings were to be others. In order to accord with them the church of St. Hedwig was constructed on a circular plan. The fine street Unter den Linden was to form a worthy approach to the group. It cannot be said that Frederick's arrangement is worthy of imitation, and it is quite possible a civilian is incompetent to grasp the king's meaning. The buildings are all in what was then accepted as the classic style, but they are markedly diversified. A military engineer might be able to discover some peculiar signification in their varied masses. However, as memorials they deserve to be esteemed. It is alleged that the acoustics of the Opera House are imperfect. But on that subject there is much difference of opinion. If the building is not adapted for the performance of modern operas it could be utilised for other classes of music. One reason, no doubt, for dissatisfaction with the structure is the progress some other German cities are achieving in music, and the capital of the empire is becoming associated with the drama rather than with music; many sacrifices would be made, even of historic buildings, in order to bring about a change.

The deception caused by some learned Frenchmen bestowing their support on the authenticity of the crown of Saitapharnes is enough to render other scholars sceptical about the extent of the knowledge of the advocates for the crown. M. Arthur Heulhard, one of whose books on Rabelais we reviewed at some length, has come into the arena and challenges M. Salomon Reinach, one of the sponsors for M. Roukhomowski, concerning a declaration he made about one of Lucian's characters. The interest in that writer of imaginary conversations is reviving, for some of his irreverences are in keeping with modern notions. One of the dialogues is entitled "Philopatris," and it is supposed to be a satire on contemporary manners. But there is no certainty about the period in which Lucian lived, although he wrote in excellent Greek, showing that at the period the language retained its purity. Some say he lived in the second century, while others believe he was a contemporary of the Emperor Julian and lived in the fourth century. In either case the dialogue might be interpreted as an effort to excite ill-will against the Christians. M. Reinach holds it was produced in the last years of the reign of Nicephorus II., known as Phocas, and that the satire is really directed against the reformers of that age, viz. the tenth century. That is the theory which M. Heulhard investigates, and in doing so he displays not only erudition but excellent wit. The tenth century in Eastern Europe was a time of commotion, and many will be surprised by the vividness of the critic's descriptions. Archæologists especially will find much that is interesting in the pages, and, what is better still, much they would like to controvert. M. Heulhard's brochure is published by E. Moreau & Co., Paris.

ILLUSTRATIONS.

REREDOS IN CHAPEL OF CHELTENHAM COLLEGE.

On the 6th inst. the Chaplain-General to the Forces unveiled the large reredos of which we give an illustration. As the inscription shows, it is a memorial of the Old Boys of the College who fell in the South African War. It is 34 feet wide and 24 feet high, thus extending across the chancel of the chapel. The stone employed for both masonry and sculpture was Cambridgeshire "clunch" of which 1,100 cubic feet, or 80 tons, were required. Messrs. Prothero & Phillott, of Cheltenham, are the architects. The whole of the work, masonry and sculpture, was carried out by Messrs. R. L. Boulton & Sons, of Cheltenham, who were engaged on it for over a year. The cost was subscribed by Old Boys and their friends. Among the figures it will be observed there is unusual variety. Besides the archangels Michael, Gabriel, Raphael, Uriel, are the patron saints of England, Ireland, Scotland and Wales, and saints whose names are associated with the history of the English Church, viz. Columba, Augustine, Aidan, Alban, Edmund the King, Dunstan, Anselm, Becket. Among other churchmen are William of Wykeham, Langton, Bede, Cranmer, Wycliffe, Tyndale, Bishop Butler, John Keble, Dean Colet, John Wesley, George Herbert, Thomas Arnold. Other celebrities are King Arthur, King Alfred, Simon de Montfort, General Gordon, Lord Lawrence, William Wilberforce, Robert Raikes, John Howard, Sir Thomas Gresham, Sir Thomas More, Sir John Franklin, Dr. Jenner, Dr. Livingstone. The representatives of literature, science, and art are Caxton, Wren, Chantrey, Newton, Handel, Reynolds, Milton, Bunyan, Shakespeare, Scott and Isaac Walton.

NORTH-EASTERN STATION HOTEL, NEWCASTLE: THE VESTIBULE.

This building was one of the first in which the advantages of tiled surfaces were recognised, and time has confirmed the wisdom of Mr. Bell's innovation. The work was executed by the Burmantofts Company, who have since carried out a vast quantity of similar work throughout the country.

THE ALBANY, PICCADILLY.—LORD MACAULAY'S ROOM—THE GLADSTONE ROOM.

CATHEDRAL SERIES.—CHESTER: THE CRYPT.

DENMAN HOUSE, PICCADILLY.*

This building was erected last year by Messrs. Howard & Co., builders, of Covent Garden, from designs of Mr. Harold A. Woodington, A.R.I.B.A., for Messrs. Jas. L. Denman & Co., Ltd., wine merchants, whose head offices were formerly in the old buildings upon this site. The elevations throughout in Piccadilly and Air Street are in Portland stone, with elaborately carved cornices, friezes and panels. The pilasters to lower portion of front are of polished Bon & Iccord granite, with carved stone caps. The shop-fronts are designed in oak, surmounted by heavy stone facia. Over the main entrance in Piccadilly the carved entablature and lions increase the effect. The lobby within this entrance and the doors are carried out in oak, embellished with carved figures of the most ornate description. Within close proximity of Piccadilly Circus, whence a good view of this building can be obtained, the new premises are a great improvement to the neighbourhood, and it is to be hoped that others will follow an example which has been set in this instance, for on the elevation no expense was spared.

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* For illustrations see *The Architect*, April 15.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last, Mr. Aston Webb, R.A., president, in the chair.

Registration of Architects.

The President said he wished to make some remarks on a matter which concerned the Institute. It would be known possibly that an independent committee consisting of certain members of the Institute had issued a circular asking the opinion of members on the subject of the registration of architects. It was only right, therefore, to mention that the special committee which had been appointed by the members at a recent meeting of the Institute which dealt with the question of registration were still considering the matter, and felt that it would be very unwise to prejudge the question and undesirable to send out any circular. The expression of their views was not formally communicated, as had been intended, to the small committee of London members of the Institute who were in favour of registration, but some of its members were aware of those views. He was sorry to say that, in spite of the strong expression of opinion, practically unanimously made, an appeal had been issued to members asking for their own opinions on the question. The special committee appointed had not had time to fully consider the matter, and this appeal was issued before they would be in any way able to lay before the members of the Institute their opinion of the *pros* and *cons* of the question which the Institute was quite willing should be undertaken and carefully considered, and a report made as to the merits or the demerits of the proposal. He was informed by the chairman of the independent committee that this notice had been sent out through some bungling and misunderstanding amongst the members of the committee itself. The Council felt that in a matter of such importance as this there should have been no bungling or carelessness before such a notice was issued. Three members of the committee—Mr. Seth-Smith, Mr Wimperis and Mr. Guy Dawber—had, he understood, in consequence, resigned from the committee, and he hoped other members would show their sense of the unfortunate occurrence by doing the same, for it really made the consideration of the question a most difficult one if it was to be treated in that way. He thought it was only right to mention the matter at the first possible opportunity to the members of the Institute. Perhaps they would allow him while he was on the question just to give one little hint. They would have the question of the election of the members of the Council for the coming year shortly before them, and the responsibility rested with every one of them to elect the best men to represent the profession on the Council, and he hoped they would consider not only the question of registration but also the general qualifications of each candidate.

Mr. E. S. Prior, M.A., read a paper, illustrated by lantern views, on

The Statues of Wells Cathedral, with Some Contemporary Foreign Examples.

The statues of Wells front have escaped the chances which have been almost everywhere destructive to Mediæval sculpture—they have not been largely defaced by iconoclastic or political riot; they still possess their heads, arms and their main features unbroken; the face of the stone has not completely perished, as so much of English building stone has done, and in the pure air of a West country town it has been but little coated with dirt; and, as a crowning mercy, they have not been "restored" away by the "restorer." They belong to that fresh, early period of Gothic art when its expression seems to leap upward like a flame; when in the heat of it art ran molten into the moulds of new motives, when the image and superscription that for the thousand years of the Byzantine dynasty had been the currency of art was in a couple of generations entirely coined afresh, minted, as it were, for the Gothic dynasty. We can see in the Wells statues the genesis of a dominant art, the triumphant progress that marks the creation of a great style, till in the latest and best of our Wells figures has been reached the highest level of the English accomplishment.

The author explained that his intention was to develop certain views upon one aspect of the Wells statues which circumstances had brought to his notice The scaffolding recently erected had given opportunity of observing at close quarters not only the matter of the portrayal, but its manner, and Mr Arthur Gardner had made photographic studies of certain features which he (Mr. Gardner) would presently put before the meeting As a preliminary, the author briefly surveyed the points they wished to develop.

The art of the statuary in stone is the art of his chisel. His craft lies in the edge of the chisel or other implement with which he shapes and models his stone The author's point was that the consideration of that use of the chisel gives the key to the history of English sculpture. In the simple action of cutting stone lies a world of diversity in which can be clearly mapped out territories of style. Even in the plain dressing and walling of freestone, the date and style of the masons were expressing themselves all through the Middle Ages, and this expression can be traced from one period to another by the variations in the finishing and setting of the stone employed. Fully as expressive of date and style is the signature of the figure sculptor in his use of the chisel point upon his statue; it is the expression of his time; it shows a growth from one stage of execution to another, exhibits certain peculiarities arising from the phases of his craft, from the traditions of his age, from the texture of the stone he uses, from the commerce and connections of the habitat in which he works. His chisel conventions are the nature tongue of the sculptor. From the consideration of them we may say he is Englishman, Frenchman, Italian, or German, that his craft has grown up in the works of this or that stone, that he was living at a certain date, and had, in fact, a certain position in the history of English, French, Italian, or German art.

The building of Wells Cathedral was the work of sets of masons, who began in the twelfth century and carried on what was practically a continuous succession of stone-cutting craft, culminating in the statues of the west front, and leading on in them from step to step of progress until the highest attainment was reached. The combination in the building of oolite in wall and arch-moulding, with limestone shafts, makes a distinct and peculiar sub-species of thirteenth-century mason-craft. It is distinguished by certain peculiarities of moulding in arch moulds and capitals, and by not having its wall stone dressed with the notched chisel. It occurs at Sherborne, Gloucester, and Exeter, but its great accomplishment was the west front of Wells, and it was in connection with its style that the great statue-making of the front was achieved.

The author proceeded to trace back this thirteenth-century style of figure-work to its early beginnings, showing how the free statue in stone grew up without any special effort in the Wells building. The head expression had been long in practice for label and corbel; the full relief and the attitude of a statue had by 1220 been for some time in the ambitions of the carver of recumbent effigies; by 1220 the draperies had made their expression in the ordinary architectural carving of the mason. Nor was the motive of this great enterprise of setting up ranges of life-size saints any sudden and new idea. Life-size free-standing images had from the tenth century, at any rate, been in the habit of English art. The manner of such representation was part of the ordinary church fitting of the time. But this statue-making was goldsmith's work, adapted for the niches of an internal screen reredos; the new thing was that the Wells figures were stonemason's work. When the mason's skill had reached that power of carving the human figure which the building of Wells gave him, immediately the project of using his powers to furnish the great iconostasis of stone, which the west front of Wells is, would arise, and would be in the natural functional development of English Gothic style.

Exhibiting the statues by slides, the author put them into groups to show their successive stages of development, and to bring out the evidence of a peculiar Wells technique which was a distinctly native possession, growing out of the Wells building, and declaring itself as the production of no foreign hand. In a figure remaining at Winchester the Wells manner could be seen carried a stage further. The distinctness of the Wells treatment would display itself beside other English work, contemporary or nearly contemporary, at Westminster and Lincoln. Yet in them all—at Wells, Westminster and Lincoln—will be seen a general flavour, a generic likeness, which seems to be evident under the distinctions of species in the three. To emphasise this point the author referred to contemporary work abroad. Despite similarities and often identities of the subject of statue-making, despite the likenesses of treatment as to the characters represented, despite the close parallelism in the conditions of the sculptors, abroad as in England working up from Romanesque traditions in stone-cutting to the accomplishment of Gothic ideals, the handling of the English work shows as distinct from that abroad. There is a generic French manner displayed at Chartres, Amiens and Rheims, which, just as our English generic manner had its own varieties, so in the sculptural development of each of these three cathedrals developed a particular specific technique that can in each case distinguish them.

The author's conclusion was that the Wells statues were a production of English art, not, as much assertion has declared them, the work of any foreign sculptor. For as it can be clearly seen that neither the sculptors of Westminster nor Lincoln carved figures like those of Wells, so equally must those of Chartres, Rheims or Amiens be acquitted of having had a share in them.

Mr. W. H. St. John Hope was thoroughly in accord with all that Mr. Prior had said, and he agreed in the opinion that all the figures of Wells were of English origin. Quite recently the Comte de Lasteyrie had said he could find no French influence in the sculptures, and the verdict given was that they were perfectly English. It was rather exasperating when taking up guide-books to find that the authors set down all the fine work in their old buildings to foreigners, whereas comparative examination the one with the other and search among old records proved the work had been done by men who bore English names. Mr. Prior and Mr Gardner had both proved very clearly that the work at Wells stood out as being the product of our own country.

Professor LETHABY also agreed with the conclusions of the papers.

Professor BERESFORD PITE proposed a vote of thanks to the authors of the papers, which, he said, were exceedingly interesting, valuable, important and pleasurable. To architects there was a very great and delightful element of beauty in the Wells front. The extraordinary contrast of the forms sculptured, and yet their harmony with the columns and the shaftings, was of great value as an element of design, and a new charm was added when they were told that the forms of the mouldings linked themselves with the folds of the drapery of the figures. The design of the sculptured front was interesting. The figures had some story, order and meaning in their arrangement which defined the limits of the original design, but the paper had not disclosed the meaning. Wells was an example of some great movement in the direction of originality of treatment made by English church architects.

Mr. H. STANNUS, who seconded the vote of thanks, said the examples they had seen of Gothic work showed a development very like that of Greek art. For the English and French work he could exactly parallel every stage with that development beginning with work on the Acropolis right down to the group of the Three Graces in the Museum, and the fact made the observer feel how all great art was one.

Mr. CONRAD DRESSLER supported the motion.

THE ROYAL GALLERIES OF FLORENCE.

IN his last report Mr. Consul-General Chapman says :—It is a well-known fact that Florence is a collection of art treasures rather than a commercial city. Its celebrated galleries are especially frequented by British artists desirous of perfecting themselves in the study of Florentine masters. Some important improvements are made in the Uffizi Galleries. Those improvements, which were only the beginning of a contemplated general rearrangement, were soon followed by the redecoration and reopening of the two rooms which had previously contained the collection of the portraits of old and modern celebrated painters painted by themselves. This collection was removed to four new rooms on the first floor, after having received additions in the portraits of Alma Tadema, Carl Becker, Domenico Morelli, Walter Langley, Hubert Herkomer, Richard Bergli, Benjamin Constant and Marten Eskil Winge. In both the new rooms paintings of the Flemish school have been hung. In the smaller one, called after Van Der Goes, is the celebrated triptych belonging to the Santa Maria Nuova collection recently purchased by the Government, the "Taking down from the Cross," of Van der Weyden, various portraits by Memling, Quintin Matsys, Petrus Cristus, &c. In the other room, called after Rubens, are two very large canvases of that celebrated master representing "Henry IV. at the Battle of Ivry" and his "Triumphal Entrance into Paris," of a series of historical paintings by Rubens which had been ordered by Queen Mary de Medicis ; also other pictures by Van Dyck, Pourbus, Gherardo "of the nights," Sustermans, &c.

The beautiful triptych by Mantegna and the celebrated picture "The Adoration of the Magi" by Albert Dürer, of Nuremberg, have been at last provided with suitable frames in the style of the period, and the round painting by Michel Angelo, representing the "Holy Family," was rearranged in its original splendid ornamental frame, wonderfully carved, which had for some time been replaced by a frame of the last century unworthy of the picture. Some valuable tapestry hitherto kept stored has been under repair, and is to be hung as soon as possible in the various corridors. This has already been done to a small extent, four pieces of Flemish manufacture, representing the history of Cleopatra, being already on view. The corridor leading to the room named after "Lorenzo Monaco" has had important portraits added to the existing ones

"Christ Carrying the Cross" by Morales (known as the Divine), and the portrait of a page attributed to Tiepolo, the gifts of Dr. Walker,* an English gentleman of means and a native of Florence, were exhibited in the room called after "Baroccio," and "Our Lady of Sorrow," attributed to Titian, also a gift of the same gentleman, was placed in the first room of the Venetian school.

The department of drawings and prints was completely rearranged, and an index was made of the collection of engravings which are partly exhibited and partly stored. In the National Museum (Bargello) the very valuable collection of medals and small bronze engravings (placchette) received special attention, being completely rearranged in artistic show windows expressly made for the purpose, and a most interesting collection of antique arms, chiefly Mediæval, received from the Commune of Florence, to whom it had been bequeathed by Commendatore Ressmann, late Italian Ambassador in Paris, was also placed in the Museum.

In the Old and Modern Art Gallery, the room on the ground floor, where many works by Beato Angelico are to be found, was redecorated, the windows being enlarged in order to give more light. The pictures of that master were rearranged in a more satisfactory way and the tabernacles repaired. In the adjoining rooms were exhibited the triptychs and the "tavole" of various old Tuscan masters which were formerly in the entrance hall, after their frames and ornaments had been repaired. In the gallery the entrance hall leading to the David Tribune was also repaired, and the walls were covered with five pieces of tapestry of Flemish weaving, representing the history of Adam and Eve, the designs of which are attributed to Bronzino.

Great development was given to the collection of photographs of works of art by exchanging reproductions of works of the Florentine school with those of other Italian art institutes. Exchanges with foreign galleries are as yet very limited, but the director expressed a hope that in the near future all the principal foreign galleries might contribute to this collection.

In the Palatina Gallery the most important improvement of late years has been the building of the new entrance staircase, executed, by order of King Humbert, by Luigi Del Moro, the architect who made the façade of the cathedral, which staircase is ornamented by a fine marble fountain attributed to Donatello, and which was in the royal villa of Castello. A modern system of heating the galleries and National Museum is now being taken into consideration.

Amongst the purchases made of late years the most important is undoubtedly that of the collection of the Santa Maria Nuova Gallery. This had been formed by a collection of paintings and other artistic works removed from churches, oratories and other places attached to the hospital itself, and also from other hospitals and convents which were at various times suppressed. From 1865 the gallery had been open to the public on payment of a small fee collected on behalf of the hospital, but the receipts proving small, the board of directors offered the gallery for sale to the Italian Government on condition that it should not be taken out of Florence. The purchase was concluded in 1897, and its total removal to the Government galleries took place in 1902. Amongst the works of this collection the most prized is a "tavola" by Ugo Van Der Goes, the most celebrated of Flemish painters. One million francs were, it is said, offered for that work, but, apart from the law which prohibits the exportation of art treasures (which, however, is in many cases infringed), the hospital as a charitable institution had no right to sell any of its property without Government sanction This painting, which is on wood ("tavola"), consists of three panels, forming a rectangle 6 metres long and 2·6 metres wide, the lateral parts having been once fastened to the central board so as to fold as shutters. It was ordered by Tommaso Portinari, a rich Florentine merchant, for the church of the hospital of S. Maria Nuova, which was founded by his ancestor Folco di Ricovero, father of Dante's Beatrix, of which hospital the Portinaris had been patrons for centuries. The exact date of the painting is unknown: Wauters says between 1470 and 1475 ; Professor Ridolfi, the late director of the Florence Galleries, believes that it was some time before. The central panel represents the "Adoration of the Shepherds," the two side panels exhibit the various members of the family of Tommaso Portinari (the person who ordered the painting), introduced by their patron saints to the adoration of our infant Saviour. The grandeur of the ensemble of these beautiful paintings, says Professor Ridolfi, its austerity, correctness of design, vigour, transparency and variety of colour, the scrupulous study of life and the exquisite fineness of execution in every detail, are most vividly and deeply impressive. Many Florentine masters must ave meditated long on that wonderful picture to discover the cret of such brightness and transparency in colour. Some the Pollajoli's works, for example, show evident signs of such study. The figures in chiaroscuro of the Virgin and of e Archangel are in some places damaged; the rest might be id to be in excellent condition had not part of it lost, through cessive cleaning, that pleasant tone of old age peculiar to e left-hand panel, which bears, fortunately, no sign of ever aving been cleaned. It is not true, as stated by some critics, at the two side panels have in any way been spoilt by painting, as they certainly bear no trace whatever of re-uching.

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* Dr. Walker, a homœopathic doctor by profession, was an enthusiastic collector of paintings, and made two most important gifts to the galleries, one in 1893 of "Leda with the Swan," by Tintoretto, two paintings by Salvator Rosa, viz. a large landscape and "Job on the Dunghill," "Susannah in the Bath," by Guido Reni, and "Our Lady of the Snow," once belonging to the Duke of Lucca, also by Guido Reni, a pot of flowers painted on silk adhering to glass, a work of surprising beauty, by the Flemish master Huysum. The second gift was made in 1898, consisting of the paintings of Morales, Tiepolo, and of one purporting to be a Titian, also a Guido Reni, and the "Herodias," by Dolci.

Amongst the most important paintings of the collection, all elonging to the Italian, and chiefly to the Florentine schools om the fourteenth to the seventeenth century, mention may be ade of a cusped triptych, by Spinello Aretino, representing Our Saviour on the Cross and Angels," very remarkable for s fineness and the expression of the figures. In the fifteenth entury it was enlarged above the cusps so as to render it ctangular, and on the additional board the "Four Evangelists" ere painted in the style of Ghirlandajo, this work also being ery good. Worthy of mention is a fine small painting on ood by Niccolo Bonaccorsi of Siena, which was part of a dittico" to be folded as a book; the two panels having been t some time detached, the one bearing the author's name dis-ppeared. It was ascertained later on that it had passed hrough the hands of dealers and had been sent abroad. The anel which remains in the collection represents "The Pre-entation to the Temple." A large and valuable painting on ood, "St. Matthew; his Conversion and Miracles," is ttributed by the catalogue to Mariotto di Nardo di Cione. It of the school of Orcagna, of whom Mariotto was a pupil.

A painting by Beato Angelico in this collection, "The irgin holding Jesus who is standing on her knees," surmounted y four angels, does not appear in any of the modern catalogues f the works of that master; no doubt, however, according to rofessor Ridolfi, can be entertained as to its being his work. rofessor Ridolfi's opinion is strongly corroborated by an old atalogue of a chronicler of the Convent of S. Domenico di iesole, which states that "Angelico executed, besides the aintings enunciated therein, various other pictures, among hich a 'tavola' existing in S. Egidio, which is, no doubt, the ery painting belonging to this collection." The face of the irgin is not of the best type, if we compare it with his best orks, but the remainder possesses the usual qualities of the ther pictures of that eminent master. A work of no little mportance, although in some degree damaged by damp, is a resco by Andrea Del Castagno, a large lunette detached from he walls of the cloister of the old Camaldolense Convent of . Maria degli Angioli. This painting shows great vigour of lesign and style so peculiar to that artist. A painting on vood, representing the "Virgin with Jesus lying on her nees," is ascribed by the catalogue to Fra Filippo Lippi. Bode and Ulmann, however, attribute this picture to Botticelli when he was young. A painting on wood, "The Virgin on a Throne," bearing the inscription "Raphael de Coponibus me insit A.D. MCCCCC," is ascribed to Raffaellino del Garbo

Part of a most remarkable fresco, "The Last Judgment," y Baccio della Porta, although in a very bad state of preserva-ion, is of the greatest interest. It was begun by della Porta n the chapel of the cemetery of the Santa Maria Nuova Hospital, before he took religious orders. On his retiring rom the world Albertinelli completed it on the design already drawn up by the former. About the middle of the seventeenth century, in order to enlarge the cemetery, the fresco, with the wall on which it was painted, was removed to a courtyard of the building, and no doubt its removal and the damp of the new place must have damaged it to a large extent, as its lower part is at present almost entirely defaced. In order to preserve the rest the plastering bearing the fresco has been of late years carefully detached from the wall and removed, on a copper net, to the gallery of the hospital. Vasari says that della Porta acquired great fame by this painting, not only for the upper part, which was completed by him, but also for the lower one finished by Albertinelli, and which he had only designed. Indeed, judging from the present remains of that great work, the lower part must have been, owing to the largeness of the composition and the dramatic action, and the lively expression of the different emotions, a work of such power and value as to surpass everything that had been done previously and to rival anything that has been done since by the most famous masters. Unfortunately, as already mentioned, hardly any of the lower part has been left. An artist, Raffaello Bonaiuti, endeavoured some years ago to reproduce it on a cartoon of the same size as the original.

Two paintings on wood of the same school are worthy of special notice, one, which is supposed to be by Albertinelli, being the "Annunciation of the Virgin," a valuable work of great fineness of execution; the other is ascribed by Professor Ridolfi to Antonio Sogliani, of whom there is also in the collec-tion a larger and more noteworthy picture, which had been originally in the church of the Convent of St. Luke in the Via San Gallo, and afterwards in the Hospital of Bonifazio. The latter is the "tavola" of which Vasari says:—"It was commenced by Soglian for Giovanni Serristori with an extraordinary number of figures, some heads being really wonderful and the best he ever painted." The work was put off in consequence of the death of Serristori, but Sogliani completed it later for that gentleman's heir, Messer Alamanno di Jacopo Salviati, who gave it to the nuns of the Convent of St. Luke. It is a bold painting of good design, vigorous brilliant colour, specially in the lower part—in a word one of the best Florentine paintings on wood after those of Fra Bartolommeo and Andrea Del Sarto.

Leaving all other secondary paintings on one side, one is attracted by the rare impressive beauty of a terra-cotta bas-relief of natural colour by Verrocchio, "The Virgin with the Infant," in the best style of that master. Another work of great value is a coloured stucco of the school of Donatello, "A Sitting Virgin with the Holy Child," besides various other valuable bas-reliefs, some of the school of Della Robbia. The bas-reliefs and the stuccoes are all temporarily on view in a room at the Uffizi Gallery until a convenient place for them is found at the National Museum (Bargello), where they will be finally arranged in proper show-cases and frames.

Besides these and other works the collection includes various precious codices on parchment, richly illuminated, consisting of a missal, a breviary and several choral books, all of the fifteenth century, expressly made for the church of the Hospital of Santa Maria Nuova. The most precious amongst them is undoubtedly the missal, most richly and beautifully illuminated by Gherardo Fiorentino both with figures and ornaments of such beauty that it may be said to be quite a unique work of that kind. It consists of about 3 0 pages. Besides whole pages covered with the finest miniatures and ornamental letters enclosing religious episodes, there is hardly one amongst them which does not contain numerous smaller letters in gold and colour in the most exquisite taste. There are not less than thirty entirely illuminated pages containing religious scenes, such as "Mary and Joseph on their journey to Bethlehem" (page 13), "The Shepherds in search of the Manger" (page 14), "The Martyrdom of St. Stephen" (page 16), "The Adoration of the Magi" (page 22), "The Deposition from the Cross" (page 180), &c. The breviary, ascribed to Don Lorenzo Monaco, is also beautifully illuminated and of very great value. Professor Ridolfi thinks that its style would show it to be of a much later date than that attributed to it, and is inclined to think that it may also be the work of the same Gherardo who, according to Vasari, "illuminated for the church of the Hospital of Santa Maria Nuova a great number of books" The choral books, however, may be rightly attributed to Don Lorenzo and his school, their ornaments being less delicate and more peculiar, according to the style of the times. They are also very valuable, although some of the miniatures have much deteriorated. Special show windows have been prepared for these codices at the National Museum, but at present they are temporarily on show at the Uffizi Gallery.

Amongst minor purchases mention may be made of a portrait in oils of an elderly gentlewoman in a widow's dress, Flemish school of the seventeenth century; a "Portrait of Cosimo I.," by Bronzino; a "terra-cotta statue" representing the Virgin with Jesus in her arms, Pisan school of the beginning of the fifteenth century; two paintings by Tiepolo, and quite recently an altar-piece by Pietro Perugino, and a painting on wood by Filippo Lippi, representing "The Virgin Worshipping the Holy Child," and other valuable works.

A good many gifts have also been of late years received, amongst which may be mentioned 490 drawings and sketches bequeathed by the Florentine painter, Stefano Ussi, and Commendatore Ressmann's most valuable collection of antique arms (chiefly Mediæval), exhibited in the National Museum (Bargello) as mentioned above.

LIVERPOOL CATHEDRAL.

A MEETING of the Liverpool Cathedral executive committee was held on Monday; Sir W. B Forwood presided. Arrangements were made for obtaining tenders for the foundations and other work preliminary to the laying of the foundation-stone. On the motion of the Bishop, seconded by Lord Lathom, it was decided that the title of the building should be "The Cathedral Church of Christ."

St. James's Mount, says the *Liverpool Courier*, presents a busy spectacle nowadays. The residences, the band-stand and other structures which had for so long a period been the sole conspicuous objects of the site have been demolished, and gangs of workmen are now employed in removing the *débris*, levelling the ground, and otherwise preparing the land for the great historic ceremony of laying the foundation-stone of

Liverpool's new cathedral, which it is fervently hoped by all Churchmen throughout the diocese His Majesty will perform within the next few months. No precise date has yet been assigned for this event. Informal communications have passed between the Court and Knowsley, where the King and Queen will stay during their visit to this district, but although their Majesties have as yet made no sign beyond expressing a general hope that they may be able to accede to the wishes of the Cathedral committee, it is officially anticipated that a day early in June will ultimately be chosen for the function.

It is a matter of profound gratification, and may surely be regarded as a happy augury of a brilliant success for the Cathedral undertaking, that the initial stage of the work has already been safely passed. The first and most indispensable condition was to find a solid and lasting foundation. The preliminary operations in that respect have been eminently satisfactory. The site has, in fact, presented fewer difficulties than might have been expected. The committee have been delighted to find that so far as at least half the area is concerned no trouble whatever has been experienced in reaching the solid rock. On the portion of the Mount fronting St. James's Road quite a number of boring operations have lately been carried out and in every instance the excavators had only proceeded a short distance, in some cases less than 5 feet, when the rock appeared Thus so far as that part of the site is concerned the preparation of the foundations of the building will be an exceedingly economical process. Regarding the other half of the site, the portion abutting on the cemetery, the case is somewhat different. That is the position of the old and long-disused quarry, and is occupied by what is known as made land. In that quarter the men were obliged to bore to a considerably greater depth to find the rock, but the work has been thoroughly done, and in every part of the site a rock foundation has now been reached. The committee wisely determined to leave nothing in doubt. Wherever a pillar of the Cathedral is to be erected there boring operations were undertaken, and it is satisfactory to learn, as we have done on the highest authority, that in every instance a firm foundation has been discovered.

Upon the question of expense subscribers to the Cathedral fund may therefore now feel quite reassured. It is true that the laying of the foundations on parts of the site nearest the cemetery may prove somewhat costly. The rock foundation is situated at a great depth in one or two places in that direction, and as was inevitable in the case of the site of a quarry it is extremely uneven, but any additional outlay in that direction will be easily counterbalanced by the entire absence of difficulties on the portion facing St. James's Road. The best possible evidence on that point is that the Cathedral committee have been furnished with an approximate idea of the total cost of laying the foundations, and are pleased and not a little surprised at the figure. The preliminary work may, indeed, now be said to have been virtually completed, and such excellent progress has been made that the prediction may be safely hazarded that whether the date eventually selected for the ceremony be early or late His Majesty will fine everything, at all events relating to the site, in perfect order for his visit.

THE CHURCH OF BORGUND.

A TELEGRAM from Aalesund announced the total destruction of the famous church of Borgund, the most remarkable of the few wooden structures of Norway in the Middle Ages which have survived to our day. It was stated that the church was plundered during the night, and afterwards set on fire and burned to the ground. None of the antiquities contained in it were saved. Happily the building in which the fire occurred was a comparatively modern church of Borgund, quite insignificant in architectural character.

The old church of Borgund is described by the *Times* as standing in the centre of Norway. It lies a little aside on the left hand of the main road from Christiania to Bergen over Valders, and is in sight of all the flock of tourists streaming in the summer-time between Frydenlund and Lærdalsören. In consequence of the interest felt in it, and its importance as a stopping-place for the tribe of travellers, a good hotel was built close to it some five or six years ago, and there the key was kept. Until the last generation the ancient church continued to be used for the religious services of the parish. Under pressure from the antiquarian world the Norwegian Government helped the inhabitants to build themselves another church, also of wood, so that the *stav-kirke* should be preserved as a precious treasure; at the same time some modern structures, which stood dangerously near to it, were cleared away. It was placed under the protection of the Society for the Preservation of Ancient Norwegian Monuments.

It is usual to speak of Borgund as the oldest existing church of Mediæval Norway. This is not strictly correct, for the latest consensus of architectural experts has decided that the curious little church of Urnes (or Oddnes), on the Lyster Fjord, is the most ancient surviving specimen of Germanic wood-building. Parts of Urnes appear to date from 1090, but comparatively little of this church remains intact, and still less of that of Vaage in the Gudbrandsdal. Neither of these is very attractive to the ordinary sightseer, while each is really too ancient to exhibit the extraordinary style at its perfection. What is called the blossoming period of the *stavbygning* lasted for a hundred years, from about 1150 to 1250, and of this period by far the best preserved and purest specimen is the church of Borgund. It is, however, an error to suppose that Norway contains no other examples of this extraordinary class of national architecture. The Borgund church is famous, partly because it is the most perfect of its kind, but partly also owing to the accident of its standing on one of the high roads of tourist traffic. Scattered over the surface of Norway there are eight or nine other three-naved wooden churches of the twelfth century. Hitterdal in Telemarken is the largest *stav-kirke* in the world, and would have been more interesting even than Borgund had it not suffered about fifty years ago from reckless acts of vicious restoration. The same melancholy mania has practically destroyed Hopperstad and Ringebu, and even the church of Torpe—a building little known to tourists, lying between Aal and Hol, and well deserving of the notice of archæologists—even Torpe is greatly in decay. The unique and surprising charm of Borgund is its perfect preservation.

It is a misfortune that the church of Borgund was never moved from its place, as has several times been suggested. Twenty years ago there was a sudden enthusiasm among Norwegian artists and antiquaries about the expiring remains of their ancient national art, and it was represented that special means should be taken to preserve the precious relics. The Norwegian peasant is recklessness itself. The porches of these ancient edifices were used as the parish club-house, and a spark from a pipe was enough to send a grotesque black building 700 years old in one sheet of flame to heaven. It was proposed that, where it was possible, the best of these churches should be removed to the enclosures of museums. In fact, in 1884, this was done in the case of three small *stav-kirker*; that of Gol in Hallingdal was shifted bodily to Christiania, that of Fortun to Bergen, and that of Holtaalen in Guldal to Trondhjem. There was thus one specimen of the ancient architecture in each of the three principal cities of Norway. It was proposed to move Borgund also, but this was a more serious business.

The wooden churches of Norway, of which Borgund is the most exquisite example, dated from the conversion of St. Olaf to Christianity, and represented the original architectural type of Scandinavia. At first they were quite simple, without interior elaboration; at the close of the eleventh century a more elaborate taste introduced the nave flanked by aisles. The form of the building preserved to a very curious degree its connection with that of the ancient vessels of the Viking period, and, although it was evidently derived from archaic Anglo-Saxon and Irish ecclesiastical art, it was so deeply modified by native ideas and traditions that it presented a definitely Norwegian character. It is in this that the rare value of Borgund consists. This is a fragment, quite uninjured and almost untouched, of the heroic and fabulous history of the country; its priests had been eye-witnesses of deeds so ancient that the record of them goes back to saga and runic stave. To the inexpert observer Borgund is simply grotesque; it has something Indo-Chinese in the extravagance of its external aspect. It has no windows, only here and there round holes to let in the light. Its outer arcades, with their quaint high balustrades, its semicircular line of apse, its fantastic gables and peaked cylindrical roofs, its corner-pieces adorned with protruding dragons' heads and carved cornices extravagantly silhouetted, produces an effect that is rather displeasing than picturesque. As one descends the Leirdal towards nightfall, along the stream that passes southwestward through a naked treeless valley, often ravaged by landslips, and approaches Husum and the turn of the great dale to the westward, it gives the traveller an almost sinister impression to see this little black church, with its quaint flounced skirts and its dragon-heads against the sky, solitary there and unexplained, a gratuitous and inconsequent relic of a half-barbarous civilisation which had passed away before our Wars of the Roses were over.

COUNTRY HOUSES.

IN the cases of buildings in the country which are surrounded by vegetation, or in others on eminences without trees and backed by the sky, the colour of the building, including both the walls and roof, ought to be such as not only to form a whole of itself, but also to form a whole when combined with the surrounding scenery or the sky. Large conspicuous roofs of a blue or of a green colour are alike unsuitable for both situations, because blue does not harmonise with green nor with the sky, and because green is monotonous in one case and discordant in the other. The colour of a building to be opposed to the sky ought to be of some whitish, yellowish, reddish or brownish tint, avoiding as extremes blue and green.

The same observation will apply to buildings intended to be placed in the midst of verdant scenery, and more especially to such as are of small size, and which must of necessity form component parts of a composition, and not a whole by themselves. At the same time, it must be observed that small artificial objects placed in the midst of natural ones, such as a white cottage with a blue slate roof in a wood, though considered in the abstract as inharmonious, yet in the reality, by the reflection of the lights and shadows of the surrounding objects, may be rendered harmonious and consistent with the idea of a whole.

EGYPTIAN ANTIQUITIES.

In his annual report on the condition of Egypt and the Soudan, Lord Cromer says it is becoming more difficult to prevent the reports from extending to a length which will, he fears, become tedious. New questions are constantly being evolved. Fresh interests are rapidly springing up. Egypt is in a state of transition, and the problem of adapting the whole machine of government to meet the wants of a society which is almost bewildering in the variety of its component parts becomes daily more complex. In spite of the number of complex subjects, Lord Cromer is not forgetful of antiquities. His lordship states generally :—

The eleven columns at Karnak, which fell in 1899, have been re-erected to a height of 6 metres ; the centre of this temple has been cleared out and the masonry consolidated.

The clearance of the Ramaseum at Thebes has been continued, and the tomb of King Thotmes IV. has been discovered.

At Edfou, the west wall of the temple has been pulled down and rebuilt.

At Sakkarah, the work round the Pyramid of Ormas, commenced in 1899, has been completed.

Four new volumes of the catalogue of the Museum were published in 1903. Six others are in the press.

The Temple of Philæ.

The Egyptian Government has spent some 22,000E*l.* on strengthening the foundations of the Temple of Philæ. I visited the works when they were in course of progress. The point which struck me most was that the old foundations were in such a condition that, had not the matter been taken in hand many portions of the temple must almost certainly have fallen before long. This appears also to be the view of M. Edouard Naville, who speaks with unquestionable authority on this subject, and who has recently (December 17, 1903), in the *Journal de Genève*, borne generous testimony to the archæological value of the work performed by the Egyptian Government. [The following is a translation of a passage from this interesting letter to which his lordship refers] :—

"I am one of those who, on several occasions, either through the Press or at scientific congresses, have protested against the construction of a barrage at Assouan. . . . I now believe that archæologists have cause to feel reassured. The monument is protected against all deterioration for many years, and it does not seem as if the water can have any injurious effect on the stone, unless perhaps in one or two chambers whose only opening is a low door, and which, consequently, retain the damp and are covered with saltpetre.

'One can even ask oneself if, in certain respects, the temple of Philæ is not to-day under better conditions than the majority of Egyptian edifices. For some years past the great temples have been passing through what I may call a crisis of senile decay. Are the excavations the cause of it? I will not attempt to deny it. It is certain that too often, in the eagerness to bring to light these magnificent remains, sufficient care has not been taken to insure that they were still strong enough to stand upright, and had not absolute need of the support afforded them by the mountains of rubbish, or by the villages that stood half as high as the pylons or between the columns. . . . At Philæ the same thing would have happened as elsewhere. The temple would have crumbled little by little ; sometimes a column would fall, sometimes an architrave, and it would have been necessary to wait for sufficient funds to be collected before attempting any strengthening work. Now that has been done, and long will it last. Whilst willingly recognising the readiness with which the Egyptian Government has submitted to the pecuniary sacrifice, we like to think that our protests have not been without influence in this decision."

This testimony is conclusive. From a picturesque point of view Philæ may possibly have lost some of its former charm, but it is certain that the interests of archæology have gained, rather than suffered, from the construction of the Assouan dam.

The Oxyrhynchus Papyri.

Whilst on the subject of antiquities I venture to draw attention to the extraordinary historical interest, from the point of view of the practical administrator, of the volumes recently published by the Egypt Exploration Society. Many of the letters which have been unearthed and deciphered by the industry and learning of Messrs Hunt and Grenfell are almost the exact counterparts of those which used quite recently to be received in large numbers, and are still to a certain extent received, at the British Agency. These volumes also abound with evidence to show that many of the abuses which, until very lately, existed in Egypt almost in their original form, are of very ancient date. For instance, plentiful allusions are made to the system of tax-farming which, it is well known, prevailed in Egypt, as elsewhere, from time immemorial, and which appears everywhere to have given rise to abuses very similar in character. I think I am right in saying that, with the fishery reforms, to which allusion has already been made in this report, almost the last vestige of this iniquitous and oppressive system will disappear. I note with some interest that in the days of Domitian the system—though without doubt equally oppressive to the taxpayers—seems to have been scarcely so lucrative to the tax-farmers as in those of Abbas II. I have already mentioned that one association of farmers who dealt with the fisheries has recently been making a net annual profit of over 30,000*l.* On the other hand, I gather from a letter addressed by "Paniscus, Strategus of the Oxyrhynchite Nome, to Asclepiades, Basilico-grammateus of the same Nome" ("Oxyrhynchus Papyri," vol. i. p. 101), that on certain taxes, the nature of which is not specified, being put up to auction, the farmers who had previously held the concession not only refused to bid, but "seemed likely to abscond" on the ground that they "had incurred sufficient loss already." If the system were allowed to exist at all, I am not sure but that the practice adopted in the first century, under which apparently the profits went mainly into the Government treasury and less into the pockets of the middlemen, is not preferable to that which has now been abolished.

Slavery is another case in point. The sale and purchase of slaves has, of course, long since ceased in Egypt, but it still exists in the more remote and inaccessible portions of the Soudan. In my Soudan report, I have alluded to the fact that, on the upper waters of the Blue Nile an able-bodied lad of fifteen years old can be purchased for 12*l.* I was curious to ascertain how this figure compared with the price in ancient times. The Oxyrhynchus Papyri abound with statements which enable such a comparison to be made. I chose one of these by way of example—the case of a woman, thirty-five years old, named Euphrosyne, who in A.D. 86 was purchased from her mistress (Aloine, daughter of Komon, &c.), and freed by a certain Chæremon. The price paid was "10 drachmæ of coined silver and 10 talents, 3,000 drachmæ of copper." Brugsch Bey was kind enough, at my request, to convert this sum into modern English currency. He informs me that it is the equivalent of 7*l.* 2*s.* 6*d* I must leave it to those who are better acquainted than myself with the purchasing power of money in the first as compared to the twentieth century to say whether, as I trust is the case, a slave really costs more on the Abyssinian frontier in 1903 than was paid in Egypt in the year 86.

Many more instances similar in character might be adduced from these interesting volumes, all pointing to the conclusion that when of recent years Egyptian reform was taken seriously in hand, the reformers had in many cases to deal with practices which had existed, without undergoing any very material change, for at least 1,800 years.

Preservation of Arab Monuments.

A sum of about 7,500E*l.* was spent on the preservation of ancient Arab monuments during the past year. Of this amount 3,500E*l.* was paid by the Wakfs Administration. The balance of 4,000E*l.* was provided from the reserve fund. I may mention that the gratitude both of archæologists and of the general public is due to the Commissioners of the Debt for the interest which they have invariably shown in this question.

I am glad to be able to report that the restoration of the magnificent mosque of Sultan Hassan, which is one of the finest relics of the Augustan age of Saracenic art, has been commenced.

Out of some 2,000E*l.* set apart for the purpose of repairing Coptic monuments 856E*l* had been expended up to the end of 1903. To this amount the Coptic Patriarch added 395E*l.* during the years 1902 and 1903.

There is probably no community in Egypt which has gained more than the Copts from the British occupation. It is notorious that many Copts have amassed large fortunes. It would be a graceful act on the part of some of these gentlemen if they would devote some very small portion of their newly acquired wealth to the preservation of the very interesting early Christian monuments in this country. My special attention has been directed by a competent authority to the desirability of putting the celebrated churches in the neighbourhood of Sohag (Deir el-Abiad and Deir el-Ahmar) into a state of repair. I venture to express a hope that funds will be forthcoming which will enable this work to be undertaken.

Museum of Arab Art.

This building has now been finished, and the objects which it is sought to preserve located in their places.

The total cost of the building—which also includes the Khedivial Library—and the fittings has been 66,000E*l*.

I am informed that the expenditure of this large sum of money has been a good deal criticised in native circles. It is very natural that such should be the case. It cannot be doubted that—although there are, of course, some exceptions—the Egyptians generally do not take much interest in the preservation of the numerous ancient monuments, Pharaonic, Saracenic and Christian, in which this country abounds. It has been truly said by an English author and scholar that "men never begin to study antiquities till they are saturated with civilisation." If the country were now in the same condition as that which prevailed twenty years ago, I should certainly hold that any large expenditure on the preservation of monuments and similar matters was unjustifiable. Now, however, that taxation has been largely reduced, and provision made for all the more essential requirements of a civilised system of government, it would appear perfectly justifiable to spend some reasonable sums of money on objects which, however little they may interest the present generation of Egyptians, will, it may be hoped, be regarded in a different light by their successors. It may, of course, be held that whilst the principle above enunciated is sound, its application is open to criticism, for that, in view of the numerous demands for the construction of other public buildings, the sum spent on the Arab Museum has been excessive. The comparative importance of hospitals, prisons, &c., in relation to museums is, under the special conditions which now exist in Egypt, a matter of appreciation on which divers opinions may be formed.

SHEFFIELD SOCIETY OF ARCHITECTS.

THE annual meeting of the Sheffield Society of Architect and Surveyors was held in the lecture hall of the Literary and Philosophical Society, Leopold Street, Sheffield, on the 14th inst., when amongst those present were Messrs. T. Winder (in the chair), F. Fowler, E. Holmes, R. W. Fowler, J. Smith, J. R. Wigfull, W. J. Hale, J. B. Mitchell-Withers, H. L. Paterson, C. F. Innocent, E. Winder, W. G. Buck, W. Potts, C. Gibson. Apologies for absence were received from Messrs. H. Coverdale, P. Marshall, A. E. Turnell, T. Swaffield Brown and C. M. Hadfield.

The annual report of the Council was presented and approved. It stated, in regard to membership, that the total number in each class was now three hon. members, thirty-five fellows, forty-two associates, seventeen students and twenty lay members; total 117, compared with 109 last year, or an increase of eight members. Seven other gentlemen also are nominated for election on the next meeting. The programme for the year commenced with a visit to Newark, when the fine old parish church and Castle Hawton Church, with its Easter sepulchre, and Kellham Hall were visited, and a very enjoyable day was spent.

With regard to public matters affecting the interests of the profession, the time of the Council had been fully occupied during the year. No further action had to their knowledge been taken with regard to the new building by-laws, and the town clerk had promised that the Society shall have a further conference with the highway committee when the matter is again considered.

The proposed competition in connection with the Corporation building scheme at Wincobank, referred to in the last report, had been carried out, but upon the facts being put before the assessor and the Council of the R.I.B,A., the assessor appointed refused to act, and the R.I.B.A. sent out a circular to its members and to members of allied societies asking them not to compete. In consequence of this an assessor was appointed by the city council who was not a member of the R.I.B.A. or the allied societies, and the Corporation accepted a design which does not comply with their own building by-laws. The Council deeply regret the action of the Corporation in this matter, as by violating the established traditions of architectural practice they made it impossible for members of the R.I.B.A. or the allied societies to compete, and consequently the city lost the benefit of much valuable experience.

The Society's council had approached the free libraries committee of the city council, and suggested the proposed library at Walkley should be thrown open to public competition. The conditions were discussed and in part amended, and, although not quite so satisfactory as in the case of the Westbar fire brigade station, thev were on the whole acceptable. In another local, though limited competition, one of the members was appointed assessor, and in a competition now pending another member had been similarly appointed. The position of the Society had also been recognised by the request of the Ilkley Urban District Council to the Council to advise them on the appointment of an assessor in their competition for new public buildings.

In consequence of repeated representations made to it by various members of the R I.B.A., the Council of that body had appointed a special committee to report upon the question of architectural work done in Corporation offices. The President, having been appointed a member of the committee, had attended two meetings in London, and the committee had not yet reported to the R.I.B.A.

The important question of the legal registration of architects and surveyors had again arisen during the past year, and on June 22 a special meeting of the Society was held, when the following resolution was carried:—"That the legal registration of architects is desirable, and that the R.I.B A. be respectfully urged to prepare a practicable scheme." A conference was called by the R.I.B.A., and the Society requested Mr. E. M. Gibbs to represent them. The thanks of the Society were due to Mr. Gibbs for the great amount of time, trouble and expense to which he had been put in connection with this important question.

The question of a proposed University for Sheffield had been considered, and the following resolution was unanimously agreed to:—"That the Council of the Sheffield Society of Architects and Surveyors is of the opinion that the establishment of a University for Sheffield would prove highly beneficial to the professional and educational progress of the city and district, and that the Society cordially supports the petition of Sheffield University College for the grant of a University charter."

A letter had been received from Councillor A. Harland, asking the Society to contribute towards the funds of the new University College buildings, and as the Society had no funds available for the purpose it was recommended that members who subscribe should request that the amount of their subscription shall be applied to the architectural department.

The Master Builders' Association had recently opened the question of the contract agreement form, and the matter was still under the consideration of the Council, who will report to the members of the Society in due course.

On February 26 last a deputation waited upon the Council from the Master Plumbers' Association in connection with the question of the supply of fittings. After hearing the views of the deputation, who urged the desirability of all fittings being ordered through the plumber instead of, as in many instances, being ordered direct either by the general contractor, the architect, or the owner, the Council decided to refer the matter to the annual meeting of the members of the Society. They recommended that prime cost sums should mean the actual net cost, and that in all instances profit and fixing should be inserted in the quantities as separate items.

The library accounts show a balance in hand of 8*l.* 6*s.* 3*d.* The Society's accounts show a balance in hand of 24*l.* 16*s.* 7*d.*

The following gentlemen were elected the officers and Council for the ensuing year:—President, T. Winder, A.M I.C.E.; vice-president, E. Holmes, A.M I.C E.; treasurer, F. Fowler, F.S.I.; secretary, W. C. Fenton; Council, the past presidents and Messrs. (Fellows) W. J. Hale, H. L Paterson, J R. Wigfull, J. B. Mitchell-Withers, H. Coverdale, A. E. Turnell, (Associates) C. B. Flockton, C. M. E. Hadfield, C. F. Innocent.

Mr. D. B. Jenkinson was awarded the Society's prize for the best set submitted of measured drawings and sketches, and Mr. J. Miller the President's prize for the best essay on an architectural subject. Messrs. J. M. Jenkinson, G. R. Bower and J. R Truelove were also awarded prizes for work in the class of design.

LIVERPOOL ARCHITECTURAL SOCIETY.

THE annual meeting of the Liverpool Architectural Society was held on Monday evening, Mr. J. Woolfall presiding.

From the report of the Council, to which we have already referred, it appeared that the fifty-sixth session had been chiefly remarkable for the increase in the numbers of junior members of the Society. There are fifty-four fellows, compared with fifty-one in the previous year. The associates have increased to fifty-nine from fifty-seven, the students to thirty-six from thirty-one, and the honorary members are now fourteen against fifteen, making a total of one hundred and sixty-three. The Council regretted to record the death of Mr. James Rhind and Mr J. H. Cook. They had also lost the services of Professor Simpson, who had gone to new duties in London. For the last nine years he had taken a very active interest in the management of the Society. During the whole of that time he was on the Council, and for a considerable portion of it was hon. secretary and president respectively. Mr. T. E. Eccles had been appointed joint representative of the Society on the Board of Architecture of the University. Professor Simpson's seat on the Council had been filled by the translation from associate to fellow of Mr Arnold Thornely, and Mr. B. M. Ward had taken Mr. Thornely's place. The

University of Liverpool, the report proceeded, was to be doubly congratulated—firstly, on attaining to the dignity of a university, and secondly, that in Professor Reilly it had secured such a highly qualified successor to Professor Simpson.

Referring to the work of the session, the report stated that a deputation from the Master Builders' Association met the president, Mr. Thicknesse, and Mr. Culshaw, with reference to the growing custom of specifying that builders must include in tenders a sum for attendance on work to be done by specialists. They stated that the architect was in a better position for estimating the cost of attending on specialists, and it would be mutually fairer for him to state a sum, instead of leaving the amount to be guessed at by the builder. The Council agreed that this was reasonable, and they hoped members of the Society would see their way to follow the suggestion.

The report of the library committee was of an encouraging character, special reference being made to the fact that the younger members were showing more appreciation of the advantage of the library as a club-room, with the benefit of mutual association.

The accounts showed a balance in hand of 53*l.* 7*s.* 11*d.*, as compared with a balance of 36*l.* 2*s.* 2*d.* from the preceding year.

The report and accounts were adopted.

Professor C. H. Reilly, of the Liverpool University, was elected a Fellow of the Society. Mr. Philip C. Thicknesse was elected president, Mr. T. E. Eccles and Mr. Hastwell Grayson, vice-presidents; Mr. Gilbert Fraser and Mr. Ernest C. Aldridge, hon. secretaries; Mr. Jas. Dod, hon. treasurer; Mr. L. P. Abercrombie, hon. librarian; Mr. W. J. Dobie and Mr. M. Honan, hon. auditors; Messrs. J. Dod, A. Thornely, W. E. Willink, E. P. Hinde, S. P. Morter, S. P. Powell and J. Woolfall were elected members of the Council; and Mr. B. M. Ward and Mr. F. B. Hobbs associates.

A cordial vote of thanks was tendered to the retiring president, Mr. Woolfall, for his services during the past year.

RESTORATION OF ITALIAN BUILDINGS.

THE board to which the preservation and restoration of monumental buildings and works of art in Tuscany are entrusted consists, for the technical part, of a director appointed by the Minister of Public Instruction and of four of the principal architects in Florence. The work done by the board during the last five years has been considerable, notwithstanding its small technical staff. As it would be foreign to our purpose to enter into details [says Mr. Consul-General Chapman], I will only refer summarily to the most important works undertaken by the board. First of all, it has been successful in persuading the Government to put a stop to the custom of using many convents of St. Francis and their very fine churches, containing works of art and historical souvenirs of great value, as military barracks and storehouses; consequently the churches and convents of St. Francis of Pisa, Pistoia, Prato, Arezzo, Pienza and Lucca have been withdrawn from those uses, some being now in course of repair and others completely repaired.

The present director personally superintended the works at the cathedrals of Pisa and Siena, where some important works of consolidation and repair are being carried out. The celebrated "Campanile" of Pisa will also soon be strengthened and carefully restored in those parts which are menaced with destruction. At the monumental cemetery of Pisa, besides general repairs to the roofing, special works were undertaken for the preservation of the frescoes of Benozzo Gozzoli, and in the baptistery of the same city the floor and the mosaics were restored.

The church of S. Giovanni at Siena was generally overhauled, restoring this building, which is part of the cathedral, to its original form and style. Old frescoes were also brought to light and restored. Works of restoration, in their ancient style, were also made to the tower and cathedral of Siena, the decorations and mosaics were repaired and original windows reopened. The magnificent abbey of S. Galgano was likewise repaired.

At Florence the "Campanile" of the Badia was restored, and that most peculiar artistic jewel was thereby again returned to its original state; the cloisters of the museum of St. Mark, where many architectural parts of the old buildings of the centre of Florence are collected and preserved, and the entrance hall of the Palazzo Vecchio, the grand old palace where the Government of the Florentine Republic had its seat, have also been thoroughly restored to their former style and beauty.

The cloisters and the campanile of the church of Ognissanti, the façade of the church of S. Carlo, in the Via Calzaioli, opposite to Or San Michele, were also repaired, and important works of restoration were made to the Palazzo dei Vetrari, at the Porte Sante, reopening the huge and magnificent windows and bringing to light the old frescoes.

In the country districts within the province of Florence the artistic church of S. Maria a Chianni, near Castelfiorentino, with a fine terra-cotta ceiling by Cieco da Gambassi, was thoroughly repaired, as were several other architectural buildings of great value and beauty.

THE CHURCH HOUSE.

THE Council of the Church House appeal for funds for the extinction of the debt on the second portion of the permanent buildings, the west block. No one who is working for the Church fails to benefit directly or indirectly by the establishment of this central institution for the orderly and convenient transaction of the Church's business. The use of the three halls and of the other meeting-rooms is increasing each year, and there are no fewer than forty-five Church societies which have their offices in the building. The temporary accommodation which has been provided for the Houses of Convocation, however, is very unsatisfactory, especially in the case of the Lower House, but the Council are unable to take any steps for providing better rooms until the present debt is discharged. The cost of the site and buildings was necessarily large, and in order that the new west block might be completed a sum of 8,250*l.* was borrowed from the bankers of the corporation. This block contains numerous offices, the temporary library and the Henry Hoare Memorial Hall, which is used for the sessions of the Houses of Laymen as well as for important meetings of many societies. Testimony from personal experience, extending in some cases over more than fifteen years, to the great and growing value of the Church House as the house of business for all departments of Church work has been given by many important bodies. Donations and subscriptions for the liquidation of this debt and for extending the operations of the Church House will be gladly received by the treasurers, Church House, Dean's Yard, Westminster, S.W.

UNIVERSITY COLLEGE, LONDON.

THE following are among the arrangements announced at University College for the coming term:—Professor Sir John Macdonell, C.B., Quain Professor of Comparative Law, will deliver a course of lectures on Tuesdays at 5 P.M., beginning on Tuesday, April 26, on "International Law." This course will deal with the greater part of international law, and will be open to the public without fee; it is intended not only for lawyers, but for students of political economy, political science and sociology. Professor F. M Simpson will deliver a course of ten lectures on "The History of Architectural Development," to begin on Friday, April 22, at 11 A M, and to be illustrated by lantern slides, diagrams, photographs and casts. Professor G. Dawes Hicks will deliver (1) an introductory course of twelve lectures on "Idealistic Ethics," intended to serve as an introduction to the study of recent ethical writings, on Tuesdays and Thursdays, at five o'clock, beginning on Tuesday, April 26; and (2) a course of eight lectures on "Post-Aristotelian Philosophy" on Tuesdays, at four o'clock, beginning on Tuesday, May 3. The first lecture in each course will be open to the public without payment or ticket. The first of a course of lectures on "Social Evolution in Oceania," was by Dr. Haddon, on April 21, at 4 30. The Barlow lectures by Dr. Moore on "Dante's Paradiso," the dates of which are announced as May 4, 5, 11, 12, 18 and 19, at 3, will be open without ticket and free of charge.

INDIAN ARCHÆOLOGY.

ON the occasion of the final reading of the Ancient Monuments Bill in the Viceregal Legislative Council on March 18 Lord Curzon described the measure as the coping-stone of a policy in respect of archæology and the remains of the past which the Government of India had pursued with fits and starts throughout the past half-century, but with sustained and unremitting ardour only during the past few years. He found when he began to inquire into the matter that the Government of India had set no standards to which local administrations ought to conform, and that there was neither co-ordination, nor system, nor control. The post of Director-General of Archæology, which had been in abeyance since 1889, was revived; grants were made to local governments to supplement their own expenditure, and they were stimulated, as were also the native States, to renewed efforts by a definite programme of conservation and repair. In 1898-99 a sum of less than 7,000*l.* per annum represented the total contribution of the Government of 300 millions of people towards the study or preservation of the most beautiful and priceless collection of ancient monuments in the eastern world; the expenditure was now 37,000*l.* a year. Not little by little, but by leaps and bounds, were they repairing the errors of the past, and purging their national reputation of a great stain. Wherever possible they had recovered and renovated the dwellings in life and resting-places in death of those master-builders, the Mussulman emperors and kings, as well as other far-famed treasures of Indian archæology. A second aspect of their work had been the recovery of buildings from profane or sacrilegious uses, and their restitution to the faith of their founders, or at least to safe custody as protected monuments. In the prosecution of this work he had received most cordial support from the Indian princes in their own States. They had also taken steps for the custody in collections or museums of rare or interesting objects that had either been torn from their surroundings or had disappeared, the principle observed being that such objects, instead of being snatched away to go to some distant provincial museum, could best be studied in relation and in close proximity to the groups and style of buildings to which they belonged, presuming that these were in a locality and of a character that would attract visitors Accordingly local museums have been started at Bijapur, Malda, Agra, Peshawar and other places. He believed that these efforts would be continued by their successors until the time came when India could boast that her memories were as tenderly prized as they were precious, and as carefully guarded as they were widely known.

PHOTOGRAPHIC SURVEY OF SUSSEX.

THE Sussex Archæological Society have decided upon a photographic survey of the county, which it is proposed should be on lines similar to those already organised and in operation in Warwickshire and Surrey. Sussex has within its borders innumerable objects of interest, and it is more than desirable that these should be recorded in a permanent form, hence the inauguration of the Photographic Survey. Anybody at all acquainted with the excellent survey made in Warwickshire will be prepared to admit its value. The method adopted in that district has been copied in several towns in England outside the counties mentioned, and with equally excellent results. In brief, the system permits of the allocation to each person who may wish to assist in the survey one section of the six-inch Ordnance map, containing an area of six square miles. The work can then proceed systematically, and in course of time the whole county can be covered. Most persons will admit that such a system is preferable to any promiscuous method of going to work. All those who may be interested in such a survey, professional and amateur photographers and societies, are asked to assist by working over allotted districts, and by helping financially towards the inevitable expenses. A committee has been formed with Mr. J. C. Stenning, of Steel Cross House, near Tunbridge Wells, as hon. secretary, and they hope to have as the nucleus of the collection some 400 negatives recently obtained by the Sussex Archæological Society. These are of the churches of western Sussex, and were taken some twenty or thirty years ago, since which time many of the churches have been rebuilt or considerably altered. It will thus be noted that the first step taken is to form immediately a collection of existing photographs, not only of buildings ecclesiastical and domestic, but of past events of local or historical importance, portraits of notable persons, old documents, rare books, prints, maps, and in some cases scenery. Those desirous to assist or wishing for further information are asked to communicate with the hon. secretary of the Survey.

Correspondence

The Angel Inns.

SIR,—As no one else has mentioned it, permit me to add one more to the list of "Angel Inns," and that the greatest of them all—at least to lovers of Stilton cheese, though only the small and insignificant central part is now licensed premises—the "Angel Inn" at Stilton, Huntingdonshire, on the Great North Road.

It was Miss Worthington, a former hostess of the "Angel," that first, apparently, sold to the passengers by coach, or sent off by the stage waggons, those cheeses which she obtained, I believe, from Leicestershire, but which her patrons naturally named "Stilton cheese." These cheeses, encased in wicker-work baskets, so I have always been given to understand, used to be piled up in huge, yet ever-decreasing, stacks outside the "Angel"

Readers of Chambers's "Book of Days" will remember the famous ride to London and back performed by a landlord of this same inn.

The "Angel" is nothing to look at, for in this respect it yields to its neighbour and rival opposite, the "Bell," famous for its sign, and made familiar by Herbert Railton's inimitable pencil.

A glance through Kelly's Directories would, doubtless, reveal the existence of many more "Angels." I find, for instance, that there are two in Herefordshire and two in Shropshire; of the latter, one being a leading house in Ludlow.

(REV.) ROBERT A. DAVIS.

Broxwood, Pembridge, Herefordshire:
April 18, 1904.

SIR,—The recent article by Dr. G. C. Williamson on the Guildford Crypts must be of very great interest to all antiquaries and sightseers, and his obvious slip in limiting the number of signs of The Angel may be readily overlooked. It occurs at Godalming, Great Yarmouth, Watford, Market Harborough, Ludlow, Macclesfield and Abergavenny, and there is little doubt they are freely scattered over the kingdom, for in London alone Kelly gives a list of fifteen —Very faithfully yours,

W. HARRADENCE.

198 Strand, W.C.: April 18, 1904.

GENERAL.

A Shakespeare Exhibition will be opened to-morrow (Saturday) at the British Museum, and will continue for three months. The exhibits will comprise a number of folios and quartos, supplemented with references in contemporary literature, and will be under the direction of Mr. Fortescue, Keeper of the Printed Books. If public interest realises the expectations of the Trustees, the exhibition will probably be on a larger scale in future annual Shakespeare celebrations.

The Metropolitan Asylums Board have sanctioned the provision of four iron bridges of two tiers each between certain of the blocks at Leavesden Asylum. These bridges, which are estimated to cost between 3,000*l.* and 5,000*l.*, will serve the double purpose of ambulatories for the patients and of means of escape in case of fire. The Board also assented to erect at Tooting Bec Asylum two additional infirmary blocks, two supplementary staff buildings, and a hall to accommodate not fewer than 300 patients. The total cost of the two blocks will be about 26,250*l.*

Mr. Barton, formerly British Consul in Geneva, has made a gift to the city of the concert-hall known as the Victoria Hall.

The Kent County Council are spending 2,000*l.* on sea defence works at Sandgate. A sea-wall will be constructed to protect the main road between Sandgate and Hythe, which was often impassable by trams last winter.

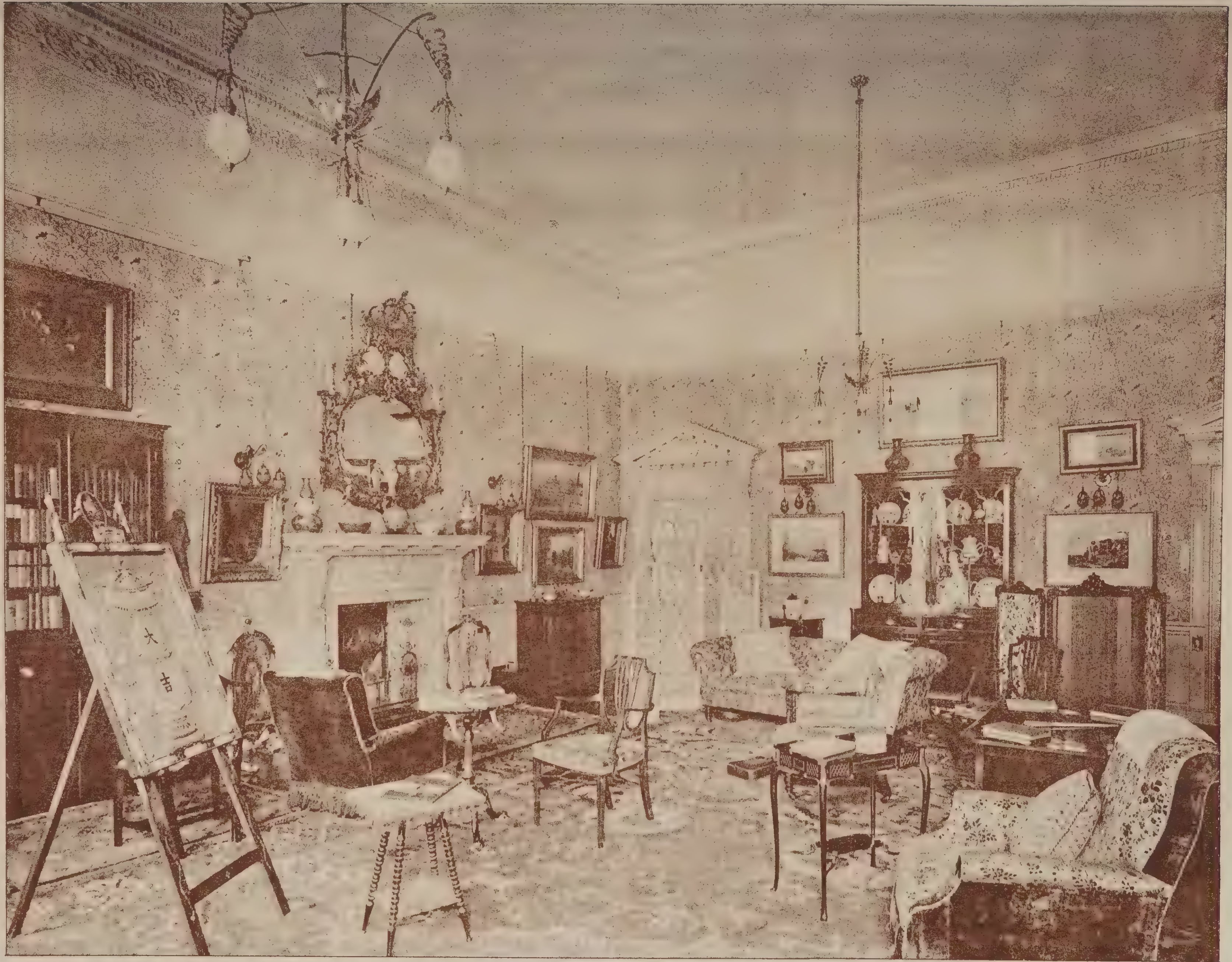
The House of Representatives at Washington have authorised the extension and completion of the central portion of the Capitol in accordance with the plans of the late Thos U. Walter. The cost of the work is not to exceed 2,500,000 dols., and of this amount 500,000 dols is made available during the next fiscal year.

Applications for appointment to the posts of director of barrack construction and deputy-director of barrack construction at the War Office should be forwarded to the Secretary of the War Office before April 30. The salary of the director of barrack construction will be 1,500*l.* a year, and that of deputy-director of barrack construction will be 1,200*l.* a year, and both the appointments will be subject to the ordinary rules of the Civil Service as regards superannuation, pension, &c. Candidates must be fully qualified architects, with thorough knowledge of building.

A Warehouse is to be constructed in Chicago, in the place of one recently destroyed by fire, which will be rendered as fire-resisting as is supposed to be possible. The building will have a steel frame, with hollow tile floors and column protection, and the floors will be finished with concrete. The windows will have steel frames and wired glass, and the doors will be all steel; the stairs will be steel and slate, and the fire-proofing provisions will extend to the elevator and plumbing fixtures. The cost of the building will be increased about 15 per cent., it is estimated, over that of ordinary construction.

Lord Balcarres says that good progress is being made with the building of the Victoria and Albert Museum, the work being now up to the first-floor level. There is at present no reason to think that the buildings of the Victoria and Albert Museum and the Royal College of Science will not be completed by the dates named in the contracts, viz. February 23, 1907, and June 1, 1905, respectively.

The next Building Trades Exhibition will be held from April 29 to May 6, 1905. We understand that the applications for space since the close of the last exhibition have been phenomenal, and already nearly the whole of the ground-floor space has been provisionally allotted. All particulars can be obtained from Mr. H. Greville Montgomery, at 43 Essex Street, Strand, W.C.



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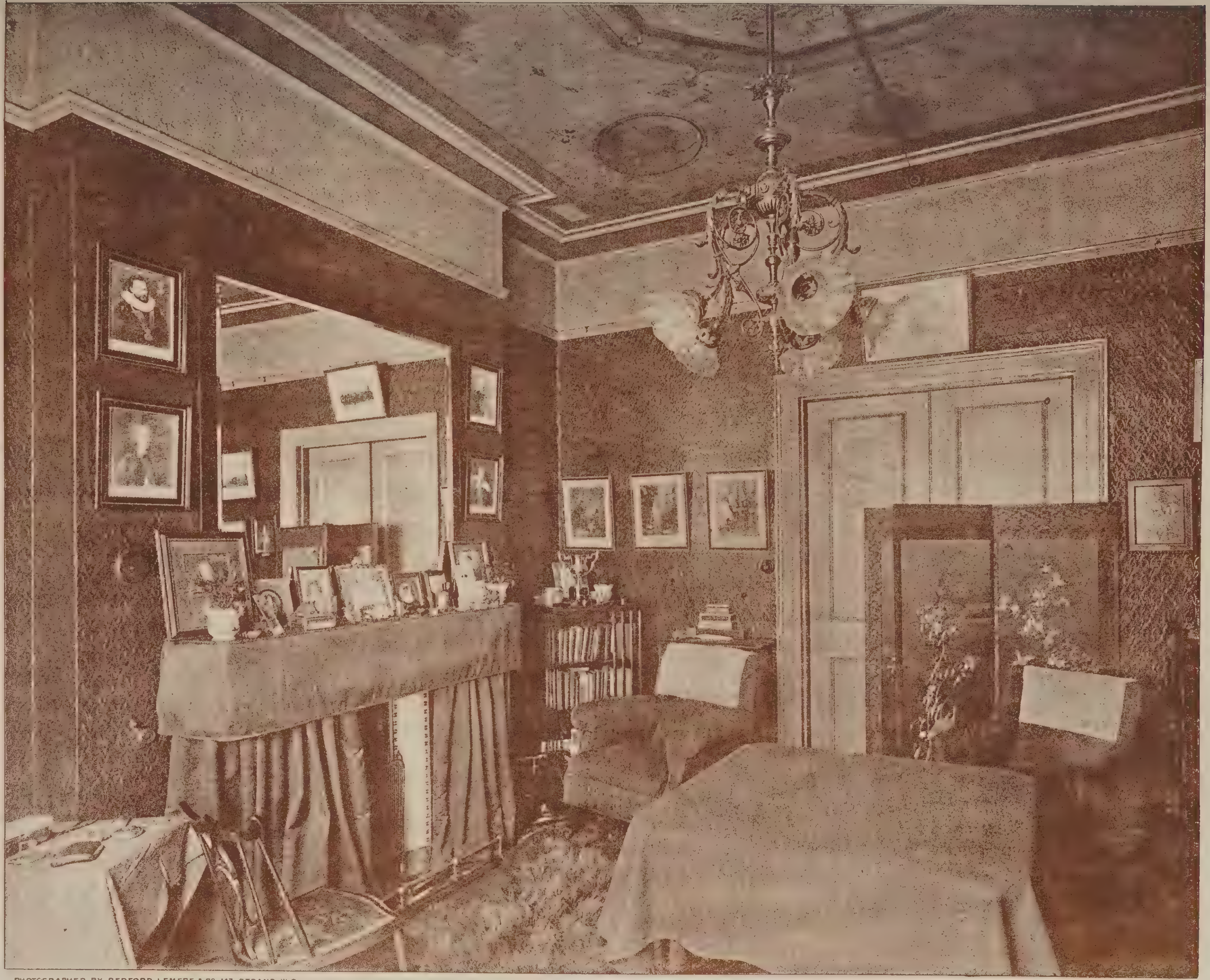
THE ALBANY, PICCADILLY: LORD MACAULAY'S ROOM.

SIR WILLIAM CHAMBERS, Architect.



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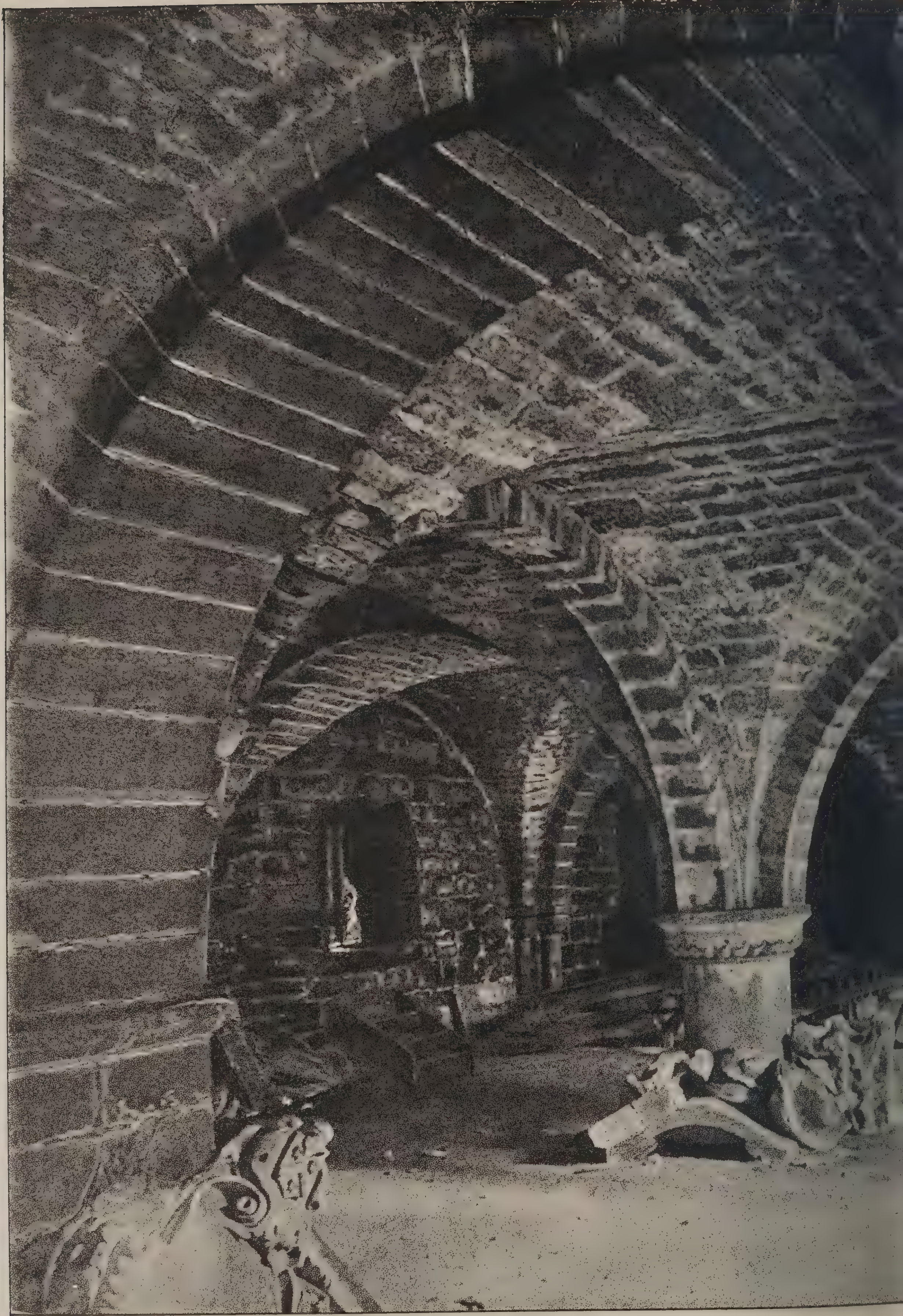
THE ALBANY, PICCADILLY: THE GLADSTONE ROOM.

SIR WILLIAM CHAMBERS, Architect.



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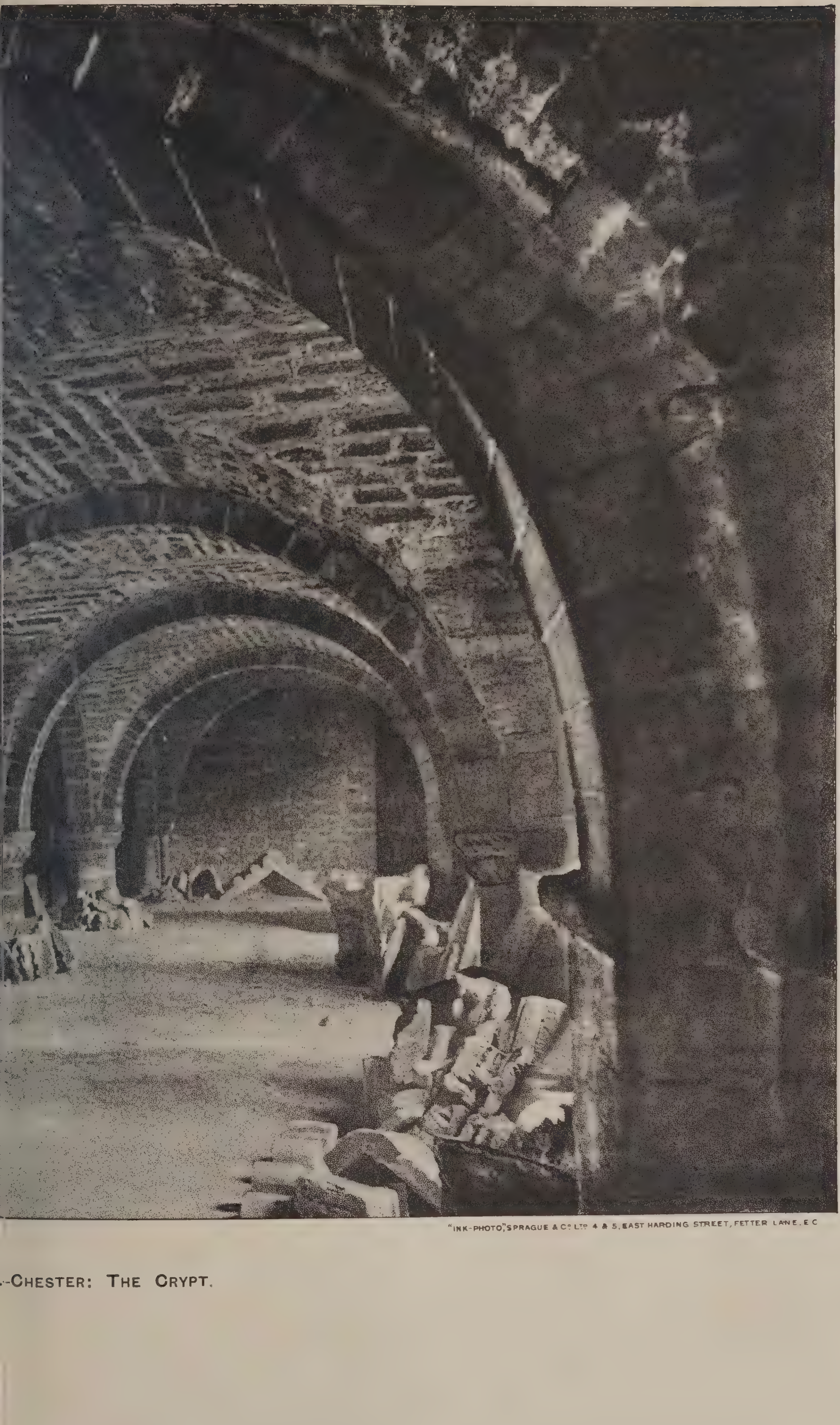
CATHEDRAL SERIES, No.



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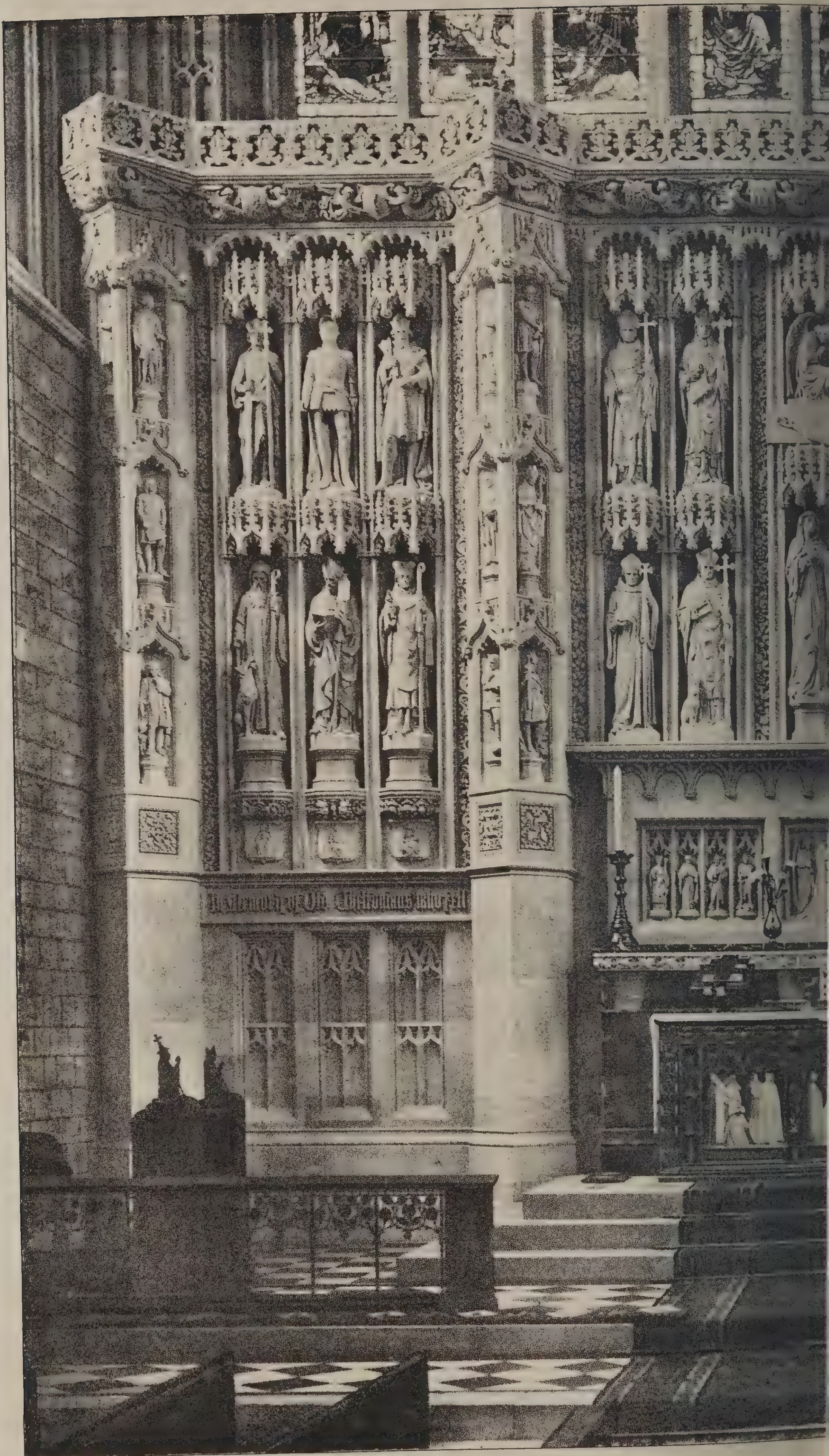
-Chester: The Crypt.

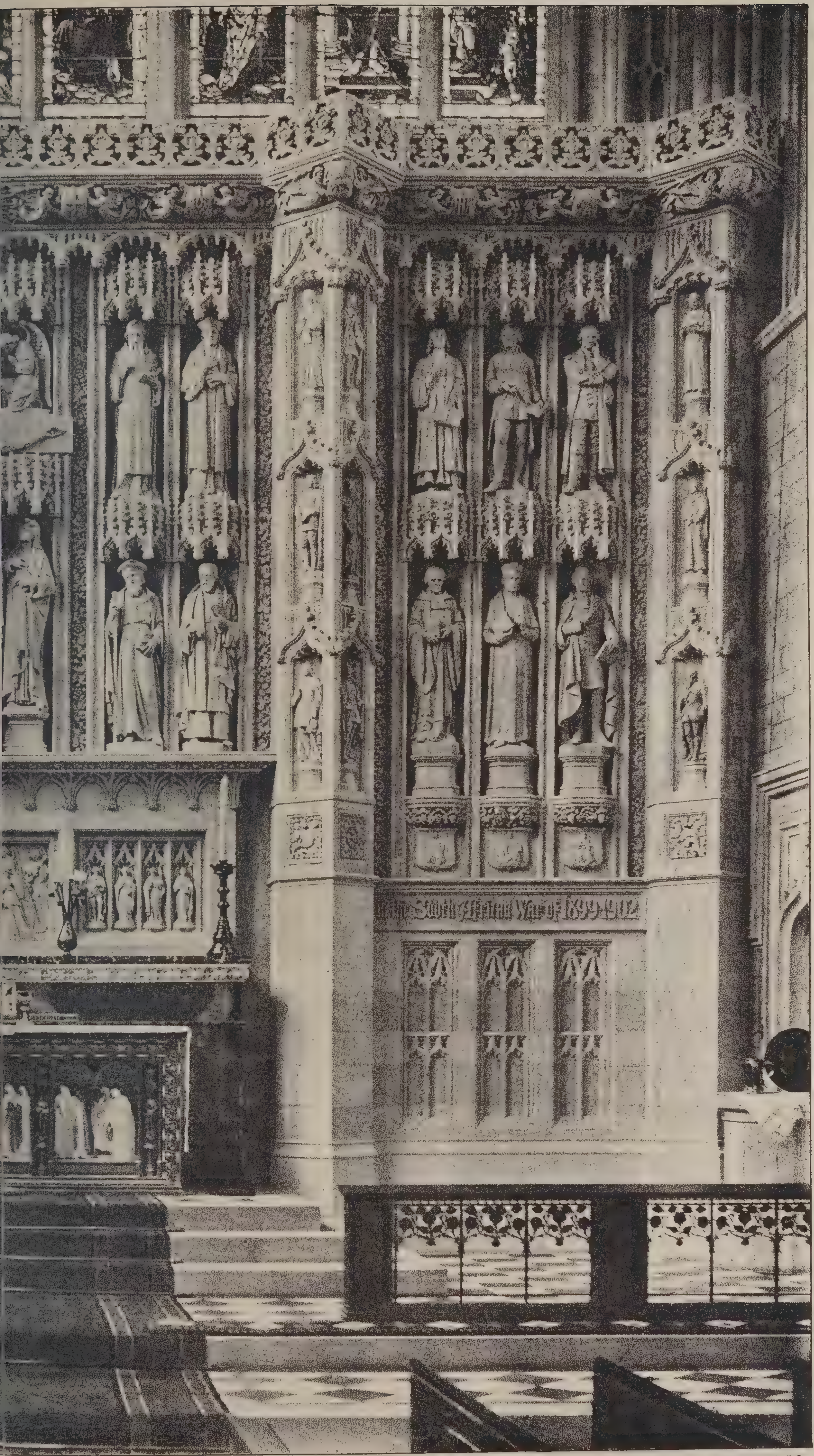


P. PARSONS, PHOTO.

CHELTENHAM

Reredos in Memory of Old Boy

Messrs. PROTHERO



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GE CHAPEL.

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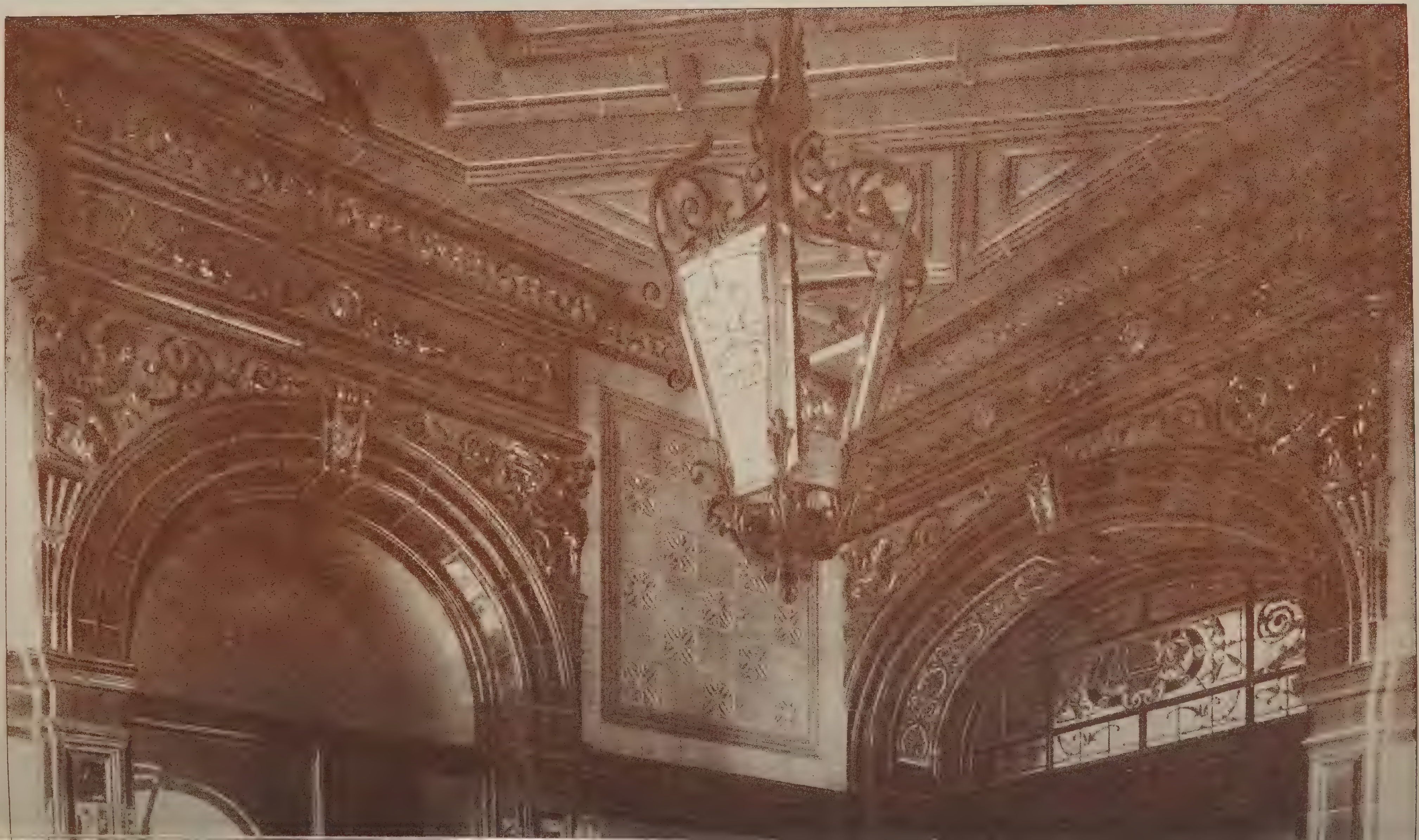
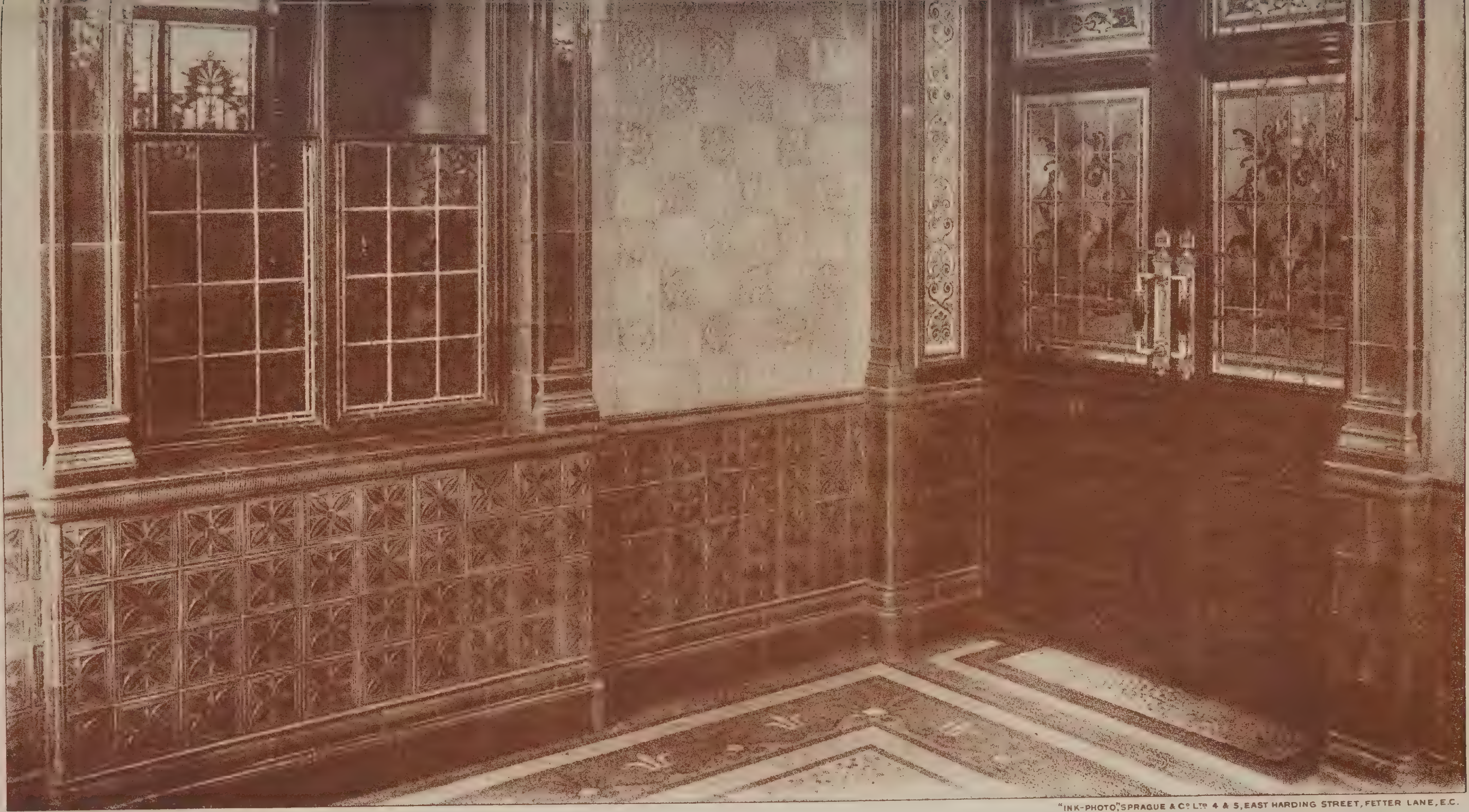
TT, Architects.





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NORTH-EASTERN STATION HOTEL, NEWCASTLE: THE VESTIBULE.

W. BELL, Architect.

The Architect.

THE WEEK.

If the competition system is to be employed for the selection of architectural designs, care should be taken to avoid any temptation to partiality in the judges. The principle cannot be adopted too early. The Académie des Beaux-Arts have therefore acted wisely in showing no mercy to those students of the section of architecture who in a recent competition endeavoured to suggest their identity. On several of the drawings there were signs which were indicative of the atelier from whence they came. All the students who were implicated were at once excluded from the competition. The professor whose name was associated with the atelier showed no sympathy with the defaulters. We hope the students will not say there were precedents for their conduct. Identification may work both ways, and it will be remembered by some of our readers that in the famous competition for the cathedral at Lille, Clutton and Burges found it necessary to present their drawings in such a manner that they could be taken as the production of a French architect. This end was secured mainly by the peculiar fashion of the lettering.

When two Acts of Parliament conflict the lawyers come by their costs. The Surrey Commercial Dock Company possess certain powers under the Surrey Commercial Dock Act, 1894, to make alterations involving the erection of new buildings upon their premises. The Bermondsey Corporation possess certain powers over the erection of new buildings within the area of the incorporation under Section 76 of the Metropolis Management Act, 1855. The Dock Company in pursuance of the powers conferred upon them by their Act found it necessary to demolish a workshop. Therefore it became necessary to build a new one. The erection of the new workshop, though not specially authorised by their Act, was consequential on the alterations which were specially authorised. They claimed successfully that they were not bound by the requirements of the Metropolis Management Act. It is clear from the case of the City and South London Railway Company *v.* London County Council that work expressly authorised by a special Act is exempt from the provisions of the Metropolis Management Act. The King's Bench Division in this case extended this decision to cover work which was the necessary consequence of alterations specially authorised. "It seems to us," said the Lord Chief Justice, "that dealing with a statutory undertaking, as to which both the rights and the obligations are imposed by statute upon a particular body, express enactment or a clear implication is necessary in order to transfer the responsibility to a body acting under a general statute. . . . The interference and control involved in Section 76 of the Metropolis Management Act, 1855, is inconsistent with the powers conferred upon the appellants under their statutory authority."

There is rarely any difficulty for an English builder to be allowed an extension of time for the completion of a contract on account of a strike, provided he loses no time in giving notice to the architect of the withdrawal of the men. In model forms of conditions of contract there is usually a clause to that effect. As a rule with us, the delay is owing to the action of the men. In America the employers sometimes take the initiative, and to safeguard the members against the consequences of delay the Building Trades Employers' Association of New York propose the introduction of the following in contract deeds:—"The contractor shall have the right to lock out his employés upon an order so to do being received by him from the Building Trades Employers' Association of the city of New York, and in the event of such lock-out taking place no claim for damages shall be made by the architect or owner on account of any delay caused thereby, and the time fixed by this contract for the completion of the work shall be extended for a period equivalent to the time lost by reason of said lock-out. The contractor shall notify the architect in writing within twenty-four hours of the cessation and resumption of work."

Persons contemplating the purchase of house property should, in fixing the date for the completion of the purchase, make sure that on the date so fixed no paving or other works required to be done and undertaken by the local authority remains uncompleted. Otherwise they may find that they will be liable for the whole expense of such works. In the case of Allen & Driscoll's Contract, there was a contract to purchase eleven leasehold houses in Rusthall Avenue, Acton, for the sum of 4,440*l.*, the purchase money to be paid and the property to be conveyed on September 29, 1903. In February 1903 the Acton Urban District Council served notices upon the vendors under the Public Health Act, 1875, to pave the roadway in front of these houses. They did not comply with these notices, and therefore in July 1903 the Urban District Council entered into a contract for the execution of the work at the cost of 2,566*l.* The whole of the work was not completed on September 29. Section 257 of the Public Health Act, 1875, in substance provides that where any local authority has incurred expenses, for the repayment of which the owner of the premises in respect of which they have been incurred is liable, such expenses may be recovered from any person who is the owner of such premises when the works have been completed. Byrne, J., held that the cost of these works did not become a charge upon the premises till the works were completed. It followed, therefore, that, as the work was not completed until after September 29, the purchasers alone were liable to bear their cost.

Whenever the Germans take up a subject it soon becomes a national undertaking, in which many people are eager to take a part. Archæological explorations in remote lands have become almost too popular. Representatives of various sciences consider they can have no claim to omniscience unless observations made in Europe are compared with some made throughout Asia and Africa. The excitement is so general that ladies cannot resist it. An important expedition, which appears to be encyclopædic in its scope, is about to start under the direction of the Frau Schulenburg-Ottleben. Artists as well as followers of science will co operate in it, and at least six months will be occupied in travelling. Beginning with Egypt, Ceylon, Sumatra, Java and some regions of India will be visited. All instruments which are considered as likely to be required in scientific researches have been provided. Lovers of knowledge will wish the expedition may add to our stock of information. What would Alexander von Humboldt have said of an enterprise which seems to be inspired by a spirit resembling his own, although of inferior strength?

The Arc du Carrousel in Paris now seems to be devoid of any purpose, and strangers wonder why Napoleon, who was nothing if not practical, constructed a monument in such a position. It is well to remember that in his time the Louvre did not correspond with the present group of buildings, and the Tuileries extended on the other side. The arch was thus placed between the two palaces, and in fact it was part of a scheme to form a communication between them. There were also some streets in the neighbourhood, of which no trace now remains. Napoleon wished to have an arch resembling one in Rome bearing the name of Septimius Severus. The commission was given to Fontaine and Percier, his architects. The attic was doubtless intended to support the four bronze horses from St. Mark's, Venice, to which an antique car was attached. After the completion of the arch Napoleon perceived that its axis would not range with that of the Louvre, and he resolved to have the structure fixed in the position that would render that result possible. The Emperor was a mathematician, and could consider the bearing of objects with regard to one another. For that purpose he proposed to Polonceau, the engineer, whose ability he witnessed in one of his campaigns, to undertake the work. It was a novel commission, for the Americans had not then demonstrated the possibility of moving buildings in their entirety from one place to another. Polonceau was prepared to accept all risks if he received the requisite authority. Affairs of another kind then engrossed the Emperor's attention, and in consequence the arch still remains in a position where it seems to have been dropped by chance.

ARCHITECTURE AT THE ROYAL ACADEMY.

It cannot be said that the new regulation about the number of works which could be sent for the Academy Exhibition has increased the quantity which is to be seen this year. Last year painting, sculpture and architecture were represented by 1,880 examples. This year the total number is 1,842. In the Architectural Room there were last year 251 drawings and models. At present there are on the walls 236—a reduction of 15. Yet the room has never presented a more crowded appearance, for in parts the whole wall space is entirely covered. One reason is that in this year's exhibition there are many very large views of buildings. It is right that all important buildings should be worthily shown, and there is an advantage in placing them in central positions, on the line as it were, but several drawings are elevated which we imagine were expected by the designers to hold coveted spots.

The central position of one wall is worthily occupied by Mr. Aston Webb's pen-and-ink drawing of "Design for the National Memorial to Queen Victoria," which is to be deposited in the Academy Gallery as his diploma work. Only the part which will be in front of Buckingham Palace is shown. The processional road is suggested only by the open gateways, which, from standing alone in the foreground, do not improve the appearance of the rest of the work. Another important drawing which cannot be overlooked is "H.M. King Edward VII. Sanatorium" by Mr. Percy Adams. It is in colour, and the brilliancy of effect makes the Midhurst refuge appear as if it were a costly holiday resort. The walls are to be of red brick, and the external shutters to the numerous windows are to be painted green. There are promenades in front which are covered, and the people in the grounds are not suggestive of patients. The drawing is well adapted to attract additional subscriptions. The "University of South Wales and Monmouthshire" is shown by a large bird's-eye view, and a drawing of the principal entrance by Mr. W. D. Caröe. Mr. Belcher's design for the same work is represented by elevations and sections. A contractor, if asked to judge the two, would say the latter is the more economical design, for the repetitions of the same form are very numerous, while Mr. Caröe has evidently been desirous to introduce a variety of features in order that each building should possess a distinct character. There is another large drawing by Mr. Caröe which also is remarkable for variety, viz. the "New Premises for the Ecclesiastical Commissioners, Westminster." It is not stated how the building will be appropriated, but from the treatment it could be employed for several purposes. The "Extension of the Sheffield Public Museum and the Mappin Art Gallery" is the nearest approach to a Classic building in the room. Like a Greek temple, there is no display of height and it is without windows in the exterior. There is a central part and two ends which are connected by a wall with niches containing statuary. The unity of the whole work is pleasing. The "Extension of the Hull Town Hall" has inspired designs by Mr. John Murray, Messrs. Jemmett & McCombie, and Mr. A. Koch, who could hardly escape from the influence of the peculiar British Classicism of the original building. Another large drawing is "The *Formidable* Nautical School, Portishead." The general recognition of the importance of the Navy has been advantageous to architects and builders. Mr. Edward Gabriel's school is an immense building standing on a high terrace, and suggests that the cadets drilling in the grounds may sometimes be exercised in scaling the walls. There is no unnecessary ornament, but there is nothing suggestive of penury in the building.

We suppose colonial subjects will be forthcoming every year. There are two designs for the "Cape University." One by Mr. W. F. Harber is rather curious in the effort to attain novelty. Parts look as if they were derived from Egypt, and yet very flat domes are also employed. There is more definiteness and far more beauty in the design by Messrs. Hawke & McKinlay. In it the central hall is surmounted by a dome which is excellently treated, and with which the other parts are in union. We are so accustomed to associate a university with a great many detached colleges, as in Oxford and Cambridge, we can hardly realise that similar purposes can be realised by one group of buildings. A third design is by Mr. R. T. Beckett. Messrs. Baker, Macey & Sloper send their design for the "Railway Station, Johannesburg," a project which caused much disappointment among competitors. The lower part may be described as columnar, and columns offer fewer obstacles to ingress and egress than piers, while the upper storey is also columnar, with windows—a mode of treatment which seems to be popular. But in this case the windows in the intervening storeys appear to be mere incidentals without importance. The recent attack by armed men on a bank in Johannesburg, or some place near it, suggests the same architects were wise when, in their "Design for Bank, Johannesburg," they kept the windows of the lower storey rather high above the level of the ground and made them semicircular in form. In the upper storey we again find a row of columns. Mr. Frank Pearson has a design for "St. Matthew's Church, Auckland, N.Z.," in which we see stone arches across the nave acting as supports to principals which are also arched, and narrow lancet arches at east end. Mr. J. N. Comper's design is for the "Church of St. Crispin, Yerendavna, Poonah," another Gothic structure, with ornament on the surface of the vaulting. Mr. Fellowes Prynne's design for the "New Cathedral, St. John's, Umtata, South Africa," is shown by an excellent drawing. What is seen is the chancel. The arch is flanked by piers with figures in niches, and over it is a sculptured Crucifixion. There is a dignity about the arrangement which must exercise a beneficial influence on a native congregation. The "Church, Entebbe, Uganda," by Professor Beresford Pite, would not present many difficulties to native builders, and although simple is effective. The thatching especially would be familiar work. The design for the "Memorial Tower, Allahabad," is more European than Indian, but is significant. All these works are indicative of the extension of the architectural field. If engineers find it advantageous to avoid restricting themselves to Great Britain, why should not architects imitate them? For the same reason the "House in Russia," by Mr. Baillie Scott; the "Design for a House in South Russia," by Mr. Inigo Triggs; the "Proposed House near Brussels," by Mr. W. Campbell Jones; the "Proposed Villa near Antwerp," by Mr. R. Frank Atkinson; and "King Leopold's Cottage, near Ostend," by Mr. Arnold Mitchell, augur well for the future. They are all in the English manner which is now in favour, and if they should fail in their destination they might be utilised elsewhere. Another hopeful work is the "Electricity Generating Station, Mayfair, with Italian Garden on Roof," which is represented by an elevation and a model of one of the buildings. However apprehensive Mayfair may be about deterioration, such a terrace as Mr. Charles S. Peach has designed—for that word suggests the appearance of the station—could hardly be considered offensive Underground structures are rarely inimical to amenity, and consequently the Paris authorities have come to London in order to imitate the arrangement of one class of them.

It is satisfactory to find from some examples that buildings which a few years ago would be inevitably handed over to civil engineers are now entrusted to architects. The "New Offices for the North-Eastern Railway Company in Westminster" are not intended for goods or traffic, but for Parliamentary business, and had therefore to be a dignified mansion such as Mr. Horace Field has designed. But the "Greaves Pumping Station," by Mr. H. V. Ashley; the "New Well and Electric Plant House, Hitchin," by Mr. T. G. Lucas, would not be considered as architectural work a few years ago by any directors. It is not to be expected that suddenly there will be a reform, but enough has been done to make architects more hopeful that legitimate business will not be withheld from them.

Two designs are owing to the South African War. The "Memorial to Old Cliftonians," by Messrs. Paul and James, recalls the Eleanor Crosses, for it shows a Gothic structure which would be adapted to contain figures or armorial shields. The memorial of the representatives of Haileybury College is by Mr. Reginald Blomfield It consists of an obelisk, and the motto "Sursum Corda" allows the introduction of symbolic hearts. The base contrasts by its richness with the severity of the upper part, and among the ornament are various helmeted and other heads, with the names of the students who fell legible. Another memorial of the dead is the "Mausoleum to contain Cinerary Urns," by Mr. Howard Ince. The chamber is vaulted in concrete, and upon the dome angels appear against a golden ground. The walls are divided into panels of rich marble with divisions in the framing in which the urns are placed. The effect is satisfactory. Mr. W. G. Mitchell has a design for "A National Crematorium and Hall of Deposition," of which a lofty tower is a feature. It may be a long time before cremation is recognised as a national institution, but possibly families or societies might unite to erect special structures. We have to learn much from foreigners about the art of making cemeteries expressive of good taste, and to attain that end it is not necessary to adopt a new mode of interment.

(*To be continued.*)

AVIGNON.—A REVERIE.

By Percy Wadham.

Overhead, a sky of intense blue, quite clear except for a small group of fluffy-white baby clouds hovering somnolently away towards the Ventour. Beneath me the water swishes rhythmically as it sweeps, swiftly, eagerly onwards to the sea. Furry insects chant cheerily in the long grass. Far away in the marsh-land cattle bells tinkle, all else is still. The island of the Barthelasse appears deserted. The warmth of the sun's rays lulls me to a delightful torpor. Lazily looking across the river I note the irregular, buff-coloured roofs overlapping each other in happy confusion above the battlements of the city ramparts, and high up the gaunt, grey silhouette of the papal palace standing out in austere outline against the azure background. I wonder dreamily of those old papal days when the city was thronged with cardinals and princes, with monks and nuns, and singing men and sayers of paternosters, when the streets were strewn with sweet herbs and balconies garnished with garlands of beautiful flowers for countless processions and pilgrimages, and the chapels were ever bright with the burning of wax candles. Vaguely, like a mirage seen through long ages, I seem to see those soldiers of the Pope chanting Latin in the public square, the white-hooded friars soliciting alms from the passers-by, the vendors of crosses and beads and chaplets busy at the street corners. Ambassadors arrive by water in stately barges, their banners fluttering bravely aloft in the breeze, and long galleys are gay with pennons from prow to helm. From every street and alley resounds the tuneful note of the hammer and the anvil, the ceaseless tic-tac of the lace-makers, the constant rattle of shuttles moving to and fro, weaving the gold of chasubles. Fighting men in armour march along to the sound of trumpet, bravely apparelled horsemen clatter over the tight-paved cobbles, and women sit in the doorways embroidering priestly vestments, and from the bridge of St. Bénézet comes the sound of fifes and tabours, for the people are content and the blood of Provence flows in their veins. Therefore they must dance, and as the streets are too narrow and tortuous for the farandole, they betake themselves down to the bridge and in the fresh breezes of the Rhône "l'on y danse, l'on y danse, jour et nuit;" and all day long and all night too the church bells and the monastery bells are pealing and clashing in the veritable "Ile Sonnante."

Other visions there are which tell of military brutality and torture, of political intrigue, treachery and murder, of plague and famine, but I let them fade quickly back into the mists of oblivion. And as I muse on in the twilight I continue to inhale the scent of the incense as it floats across the water, to hear the ringing of the joy bells—*clochò di gau*—to listen to the sound of pipe and tabour and the laughter of youths and maidens, until the soft shadows creep silently from under the arches of the old broken bridge, and the insects cease to sing and the oxen have gone their way homeward, and daylight fades; only the steady onrush of the river trembling with eagerness to wed the sea.

Mr. H. H. Collins, of 61 Old Broad Street, has been awarded the first premium of 100 guineas by the assessor, Mr. Rowland Plumbe, in the competition for the rebuilding of the City of London Lying-in Hospital.

ENGLISH AND SCOTTISH IRONWORK.*

At one time a list of subscribers in the front of a volume was little more than an inventory of charitable donations to a distressed or pertinacious author. As the majority of those who have subscribed to Mr. Murphy's large volume (it measures 21 inches by 15 inches) are architects their names may be taken as certificates of approval of the contents. The plates are deserving of the support of all who admire one most interesting class of British craftsmanship, and of all who may have to design or to produce similar work. The amateur and the manufacturer can find enjoyment in the contents of the volume.

If we appear to suggest that wrought-ironwork is mainly enjoyed by those who have given consideration to the subject, we are warranted in taking that course. Speaking generally, work of the kind should be left to smiths. The materials to be employed are limited, and the forms into which they can be fashioned should be suggestive of the original limitation. These facts appear to have been recognised especially in Italy during the Renaissance period. Wrought-iron was not much in favour with the artists. Those versatile men preferred the use of bronze castings for works which in northern countries would be made of bars and plates. The sculptors were considered to be of more importance than the smiths, and their aid was needed for other operations besides modelling. Ghiberti was able to secure the co-operation of sculptors and goldsmiths in polishing the bronze gates of S. Giovanni. At a later time when it was resolved to construct gates for the cathedral of Pisa in place of those consumed through the negligence of a plumber, John of Boulogne and a great many of his disciples were employed under the direction of Raphael di Pagno, the architect. Even a monk was allured from his monastery to direct the operations of casting, although he was not strong enough for the task and became a martyr to his enthusiasm. The production of gates was in consequence an event which in an Italian city was regarded as of unusual importance. The reliefs were compositions which demanded the highest skill, and yet by an oversight or inattention on the part of the caster the noblest work could be ruined. In the most elaborate wrought-ironwork, on the contrary, there was no opportunity for any accidental disfigurement. As a rule a gateway or a screen was made up by repetitions of a few ornaments, and if one was not considered to be sufficiently satisfactory it was easy to substitute another without much labour or expense. We do not in consequence hear of excitement whenever a wrought-iron work was in progress like that which every important casting caused in Italy.

The examples given by Mr. Murphy are mainly of eighteenth-century work, and therefore consist of gates and railings. Nineteen of the plates are derived from Drayton House, Northamptonshire. From the style it might be imagined that Tijou had a hand in the work. It is said that although there is no record of his engagement, "it is probable that some of the craftsmen who worked out his designs were responsible for portions of it, for there are several features peculiar to the artist to be found here." The drawings of details are mostly on a scale of an inch to a foot. It will therefore be evident that they are large enough to serve as working drawings, and to impart additional accuracy the dimensions are figured wherever necessary. Some of the details are quarter size. At Drayton, besides the staid English work with its straight lines and regular curves, there are some examples of German or Dutch work, in which a pseudo-picturesqueness is sought by depriving the lines of their geometric character. Mr. Murphy notices the lapses with more lenity than they deserve, saying that "the treatment of cut sheet-iron representing birds, roses and buds and many other devices makes a pleasant and restful change from the continuous flow of the scrollwork."

Belton House, Lincolnshire, furnishes eight plates. One advantage of the photographic illustrations is that they enable us to judge of the general effect in regard to surroundings, and in that way the screens at Belton are preferable to those at Drayton. They are lighter and less suggestive of defence. The elaborated parts are not in excess, and become more interesting in character when used in connection with the owner's arms. A very interesting series of plates represent ironwork in Clare College, Trinity College, St. John's College, Jesus College, Emmanuel College, Queens' College, Cambridge, with a gate in Trumpington Street, and another which is the chief entrance to the Botanic Gardens. Mr. Murphy says that "the profusion of fine examples to be found within the precincts of the colleges at Cambridge places that classic city in a position second only to London in opportunities for the study of ironwork of the Renaissance period." It is remarkable that so little information is forthcoming relating to the ironwork, although the account books of the colleges are supposed to be perfect. Two gates are given from Pulbeck Hall, Lincolnshire, and a house in Royston.

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* *English and Scottish Wrought-Ironwork:* a Series of Examples of English Ironwork of the best Periods, together with most of the Examples now existing in Scotland, with descriptive text by Bailey Scott Murphy, architect. Sixty-eight plates of measured drawings, supplemented by seventy-two collotype reproductions of photographs. (London: B. T. Batsford.)

Iron of the kind needed by the smith cannot be produced without the aid of science, and it seems right, in consequence, that Oxford should have some selectable works of that material. According to Mr. Murphy, "although Oxford is not so rich as the sister University in examples, it is able to furnish several of a most graceful and decorative description, notwithstanding that opportunities for this class of work have not been so conspicuously afforded as in the gardens and open spaces which border the river at Cambridge. The high buildings and walls forming the boundaries to many of the college gardens have been prejudicial to any treatment depending for effect on a long continued vista." The gate to the cloisters of All Souls College, part of the screen at New College and the gate of Clarendon Buildings are very elaborate. The last named has been ascribed to Tijou. Then follow examples which may be considered as of an ecclesiastical character, the oldest being the grille in Winchester Cathedral. The door of Bishop West's Chapel is supposed to be the work of Quentin Matsys, and it has the characteristics of Flemish art. One of the most interesting of the gates is from Bulwick Hall, North Hants, which, according to local tradition, was wrought by a blacksmith from the neighbouring village of Deane.

There can be little doubt about the examples at Hampton Court having had an effect in reviving the interest in wrought-ironwork. Tijou and Huntingdon Shaw are names which merit remembrance as the designer and smith. There is a luxuriance about the leafage which was not in keeping with the simplicity of the palace, but probably the massive brasswork was intended as a compensation for work of other kinds, and to recall the days of Wolsey, when "every chamber had a basin and an ewer of silver, some gilt and some parcel-gilt." Sword-rests from All Hallows Barking, some tomb rails, sign brackets, hat-rails and lamp brackets complete the English section.

The Scottish examples in the book are mostly derived from mansions. In general, they will be considered as less elaborate than those from England. Of the gateway from Traquair House, it is said:—"The general use of round bars is very noticeable, and the junctions by means of mortise and tenon are very curious. Rosettes and four-leaved flowers occur in most of the Scottish examples, and the use of them in this instance well exemplifies the work of the period." The thistle appears in the panels from Holyrood There is also ironwork from Craigiehall, Cogar House, Caroline Park House, Hopetoun House and Donibristle House.

In style plates are expressive of the subject, for they are drawn in lines which are broad and firm enough to have satisfied the late William Burges. They have also an uniformity of treatment which is not always obtained. Drawings of the ironwork of London already exist, but Mr. Murphy's collection is interesting from providing specimens of provincial and Northern gates and railings. However deserving of admiration, the plates do not exhaust the possibilities of forging. The reproduction of Huntingdon Smith's gates by Hart, Son & Peard, of which we published a view, proves that modern smiths are equal to their predecessors in dexterity, and there is no reason why English designers should not give more refined curves than are found in the majority of the eighteenth-century examples.

ADVENTURES AMONG PICTURES.*

Everyone endowed with a susceptibility to the impressions derived from pictures and statues must acknowledge how often pleasure was gained as it were by accident. On entering a public gallery or an exhibition the attention may be attracted by a work which does not occupy a prominent position, or is not sought for its authorship. Yet years afterwards the visit may have no other memorial than the recollection of that single favourite. Critics who are supposed to report on exhibitions as if they were inspecting officers occasionally are favoured with similar impressions. They may deal out praise and blame according to established canons, but if they were to express their own gratification as individuals those who accept their criticism would often be surprised. Pleasure of the kind depends on moods. Sometimes a picture pleases because it appears to correspond with our feelings at the moment, or because it summons old associations or strengthens our hopes. A collection of great masterpieces may have no influence of that sort. When Reynolds confessed his disappointment on seeing the sublimities of painting on the walls of the Vatican, he was only courageously expressing the experience of a number of people of all countries. An ordinary individual in a strange city is too confused to be able to grasp the spirit which inspires such work. A simple drawing might have more effect upon him.

The "Adventures among Pictures," by Mr. Hind, can be described as generally a record of impressions which came from works which many sightseers have neglected. The author, when he visits a gallery, does not appear to be always provided with his set of tests, his forms for registering form, colour, composition in due order. His eyes and mind are open to see "the Cynthia of the minute ere she flies"; and his descriptions of the momentary visitant are not according to the regulation pattern. A friend, for instance, is initiating him into the mysteries of landscape for subjects; and, says Mr. Hind, "I felt for a little while the essential significance of external beauty." But an article in a magazine on Ignacio Zuloaga, at which he glances by chance, is sufficient to dispel his transcendentalism; for, as he owns with *naïveté*, "Spanish women, painted, powdered, provocative, glanced at me with salacious, sidelong looks from the pages. Up rose the fan, the flowered dress, the tempestuous petticoat; on slight shoulders the mantilla fluttered; bright eyes shot questions; through parted lips white teeth gleamed; the variegated life of Spain flashed out, street scenes and the wild joys that stir about the bull-fight." Visions of that kind are as unsubstantial as those of glory, and when they vanish Mr. Hind tries to excuse himself for indulging in them by saying they were not "inharmonious with the landscape," and further asks his friend to talk about Velasquez. It may be humiliating to find a critic can deviate from his proper course, but the revelation is entertaining, and he must be rigorous who is not able to find more enjoyment in the account of the lapses than in an attempt at a scientific analysis of landscape art or of the art of Velasquez and his followers. His adventures are "Zigzags" which will bear comparison with those of Théophile Gautier.

It will suggest Mr. Hind's spirit when it is said that the Royal Academy as at present constituted is almost ignored. There is an incidental allusion to an early dream of Mr. Watts, a small work of Sir Alma-Tadema is mentioned because it is "a little picture that one observes and enjoys across the room before concerning oneself about the name of the painter," but the only members who receive much consideration are Mr. Sargent, Mr. Thornycroft, Mr. Clausen, Mr. Stanhope Forbes, Mr. Shannon, Mr. Tuke, Mr. Bramley. The reader is not likely to regret the omissions having compensation in what is said about Turner, Gainsborough, Reynolds, Constable and Phillip. The majority of visitors to modern exhibitions will be disappointed if they take up Mr. Hind's book with the hope of finding in the pages confirmation of their own judgments. It is possible they have overlooked most of the pictures or drawings which are noticed. They will read, however, about many artists whose names may hereafter be mentioned with more respect than in our time. French artists especially have had the good fortune to gratify Mr. Hind, and he endeavours in return to popularise their works in England. He rarely seeks the examples, however, in the salons, where, as he says, "among acres of strident colour it is often the small, dark picture that tells with the perspicuity of a black sheep among a white flock."

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* *Adventures among Pictures.* By C. Lewis Hind. With Illustrations. (London: Adam & Charles Black.)

Mr. Hind, we suppose, should be comprised with the realists—but with a difference. He would have Flaubert's words painted over an artist's studio, "Draw life to the life, and your moral will draw itself," but he will not recognise as life a great many of the big pictures which we can see every year in the salons. Manet, Bastien-Lepage, Henner, Matthew Maris, Pissaro, Segantini, Degas, Troyon, Corot are among his idols as painters, with Rodin in sculpture. Of Whistler he says:—

> Probably no man of our time was so incontestably the artist. Persistently he expressed beauty as seen through his own temperament, selected and arranged, and that beauty he found anywhere and everywhere. He never spared himself, either in his work or in fighting those who were opposed to his vision and method. He expressed in a few etched lines, or in a wonder of dim paint, sights that other men would have thought not paintable or too difficult to essay. He was a silent path-breaker who chose his own way, and the way was strange and untrodden.

Mr. Hind is not conventional. Instead of adopting the usual "we" of articles, he writes sometimes in the first person and sometimes employs characters for whom he acts as if he were an interviewer. By that means there is not only variety introduced but occasionally dramatic interest. Thus one of his personages, a "gentleman with a rambling mind," who looks on painting as the handmaid of architecture, and who professes to have a horror of the Rubens Room in the Munich Pinakothek, although it contains the *Daughters of Leucippe*, is able to utter the following rhapsody about thirteenth-century Gothic *apropos* of Cologne Cathedral:—

> O glorious century of the Gothic mind when buildings soared, and pinnacles and clustered columns chased one another to the skies! Architecture was then the expression of man's ideals. With what modest arrogance the grave designers of Gothic cathedrals dreamed those piles of clustering stones and said, "Behold the end. We can build no better, can go no further. The Gothic mind has touched the limit. Now let the painters and the sculptors and the carvers perfect the details. We rest from our labours!" And it was so. About 1300 the spirit of progress in Gothic architecture died, and those early architects whose minds flashed out the design from foundation to coping-stone returned to nature, whence had come their ideas—pillared aisle from some dim avenue of trees, and pointed arch from the meeting of the branches overhead. I take off my hat, I bend the knee to Meister Gerard von Rile. To dream a design for a cathedral in the year 1248, to have generations of architects poring over your design for centuries, to have the coping-stone placed upon it in the year 1880—that is something like a life-work. Nothing is known about him, and I don't want to know anything To me he stands forth as the protagonist of the Gothic mind, of that century when faith and life were comrades, when the master mason was a conqueror whose achievements were to outlive those of the builders and the dividers of empires. Truly art is long. In one of the dark chapels of Cologne Cathedral you may see, under glass in a heavy oaken frame, the original sketch on parchment of the west façade of the cathedral. Think of all the architects who followed Meister Gerard, think of Meister Arnold, Meister Johann and the others, and then look around at the completed work. I see Meister Gerard patiently working at that stupendous plan. I see him a beardless man with a look of serious melancholy, and I think of an epitaph composed by another of those devout craftsmen. He lived 200 years later, when the great age of architecture had passed away, and Flanders and Rhineland were filled with pictures. "Take warning from me," this great craftsman wrote; "I was as you are, but am now buried beneath you. . . . Pray God for me, ye who love art, that I may attain to His sight."

The foregoing passage leads to essays on the "Flemish Primitives," Dürer, and "Nameless Masters." It will consequently be evident that Mr. Hind's thoughts are not entirely devoted to the struggles in art which are now witnessed. He also finds joy in Botticelli. He admires the glimpses of Italian landscape which Piero di Cosimo allows to us. He sees in Michel Angelo "the Overman who gathered up into single figures the hopes, the efforts, the desires of generations." He says of Velasquez that he "saw deeper and more truthfully than any painter who has ever lived, and who never betrayed his trust of deep and comprehensive sight." It will, therefore, be evident that Mr. Hind's galaxy is numerous and brilliant.

There is no lack of criticism about pictures in journals and magazines, but few of the writers care to seek for their decisions a more enduring form. Mr. Hind might have thought of a volume of "Adventures" before he commenced his articles and papers. They still bear indications of their original desultoriness (which in a journal is a virtue), but they are well adapted for those who in seeking enjoyment in literature wish for occasional respite, when they can think or doze as inclination prompts.

THE SOCIETY OF ARCHITECTS.

THE twentieth annual dinner of the Society of Architects was held on Friday evening at De Keyser's Royal Hotel, Victoria Embankment, E C., Mr. Walter W. Thomas, president, in the chair.

Among the guests present were:—Lord Monkswell, Rev. Canon Vere, Rev. Newton Mant, Sir Walter Foster, M.P., Judge Rentoul, Mr. F. M. Simpson, Alderman Sir H. E. Knight, Alderman Alliston (deputy-chairman London County Council), Alderman Walter Emden (mayor of Westminster), Mr. A. W. W. Dale, M.A. (Liverpool), Mr. L A. Atherley-Jones, K.C., M.P., Mr. J. E. Gray Hill, Mr. B L. Cohen, M.P., Mr. W. F. Lawrence, M.P., Mr. A. A. Hudson, Mr. J. W. Burton, Mr. C. H. Barnsley, Mr. G. J. Brown, Mr G. G M. Hardingham, Mr. Percy Preston, Mr. J. Carmichael, Mr. Austin Taylor, M.P, Mr. R Kaye Gray, the Mayors of St. Marylebone, Finsbury, Paddington, Fulham, Hackney, Wandsworth, Hammersmith, Gillingham, Chatham; Messrs. B. Turner, T. G. Marsh, A. Eglinton, H. Montague Bates, E. O. Sachs, W. J. Wetenhall, J P., Adolphus C. Morton, T. E. Costigan, D. M. Nesbit, H. Prosser, R. Geo. Bare, Reg. H. Spalding, E. Gard Pye, A. Winter, J. R. Manning, Rev. A. Mercer, M.A., W. R. Manning, W. B. Willnot, C. Day, Charles E. Jackson, R. Harvey Webb, J. Stovell, Alderman Viney, Alderman Skinner, Alderman Gibson, D. Morgan, T. J. Jones, Cholton James, Rowland Wilson, T. E. Lidiard James, B. R. Tucker, E. Beal, W. Neighbour, J. H. Richardson, Alderman Glazier, J. A. Souttar, S. Herbert, F. Colsell, J. Deas, W. Lees McClure, S. B. Cottereil, S. Marsland, Walter C. Williams, C W. Stevens, R. F. Vallance, O. Marsland, C. H. Mead, E. Carr, F. V. Forrest, E. D. Nixon, A. E. Mullins, — Mullins, Thos. R Richards, E J. Naldrett, J. C. Jackson, A. Y. Mayell, Philip Condy, Herbert Warren, F. Childe Warren, G. A. Child, E. A. Scanes, C. D. Collins, E. C. Beaumont, A. Hance, E. V. Huxtable, H. Theobald, N. Wilkinson, G. Gard Pye (vice-president S.A.), G. E Bond, Herbert Knight, Ellis Marsland (hon. secretary), H. H. Richardson, A E. Pridmore (vice-president S.A), and Mr. C. McArthur Butler (secretary).

The loyal toasts, "His Majesty the King" and "Her Majesty Queen Alexandra, their Royal Highnesses the Prince and Princess of Wales, and the other members of the Royal Family," were passed with musical honours.

Mr. J. E Gray Hill proposed "The Houses of Parliament," to which toast Lord Monkswell, humorously defiant, responded for the House of Lords, Sir Walter Foster, M.P., and Mr. Austin Taylor, M.P., replying for the Lower House.

"The London Local Authorities," the fourth toast on the list, was proposed by Judge Rentoul. He said that whatever might be the defects in the administration in the Houses of Parliament, all would agree that the defects in the municipal authorities were extremely few, as far as had yet been found out. The Corporation of London was essentially a working body, and the highest compliment was paid to its administration when the other municipalities of London formed themselves on the same basis, and they had followed in the footsteps of the great model remarkably well.

Alderman Alliston, L.C.C., who replied, complimented the City Corporation on its old establishment and sensibility of the needs of the day. The London County Council was also an energetic body, ready to be judged by their government and their works, and by the recent election had afforded abundant proof that London was satisfied with their legislation. Both the Corporation and the County Council were very much in earnest, and the two bodies intended to continue their progressive work to the best of their ability, deeply sensible of the duties that devolved upon them.

Alderman Walter Emden also responded to the toast, and he explained the practical grievance that London architects had with regard to the working of the various Acts enforced by the London authorities. In the country an architect's plans were easily passed, but in London work plans had to be submitted to several authorities, and the multiplicity of plans gave unnecessary trouble to the architect and incurred expense to his client Although he did not speak derogatively of the central authority, he said a revision of the present legislation in regard to building would give great satisfaction to the architects of London.

Mr. L. A. ATHERLEY-JONES, K.C., M.P., proposed the toast of "The Society of Architects and Architecture." The Society was not an ancient body; it was in its twenty-first year, but since the beginning there had been manifested a solicitude which was eminently displayed by successive presidents to advance the interests of one of the most worthy professions of men that existed. He knew of no higher position that could be conferred upon a man than the profession of architecture. It combined the practice of high art and a purpose of utility. The powers entrusted to architects were not adequate for the protection of the public. They knew perfectly well that, as a rule, the individual architect sought to discharge his duties to his clients in a satisfactory manner, but there was no law to compel him, and it was to the detriment of the State that such a state of things existed. They felt, therefore, that it was desirable, in the interests of the community, that an architect should be a person of attainments and qualifications. He had had the honour imposed upon him of trying to pass through the House of Commons a Bill the object of which was to insure that architects should possess, not necessarily a very high standard, but an adequate standard of ability for the discharge of their duties. Through the exigencies of Parliamentary life, the Bill had been destined for a number of years to remain undiscussed by the body of members. There was some opposition to the measure by kindred institutions. This Society did not seek to make the profession a narrow one, but their object was that it should not be in the power of an uneducated and inefficient person to beguile the public into entrusting him with the carrying out of domestic architecture, in the undertaking of which he might imperil their health and comfort.

The PRESIDENT, in responding for the Society, said that on such an occasion, when they were met together for the purpose of friendly intercourse and good-fellowship, it would be out of place for him to detain them at any length, but he would take the opportunity of referring to what might be called the question of the hour in the architectural world, viz. the statutory education and registration of architects. He had no wish to disturb the harmony of the evening by introducing any controversial matter, and he was not concerned with the arguments for or against the movement. The Society of Architects had for years advocated the principle that anyone proposing to enter the profession of architecture should, as was the case with other professions, be obliged to undergo a course of education, and subsequently give evidence that he had the power of applying his knowledge to practical use before he was allowed to describe himself as one qualified to give advice in the science and art of architecture, and it was only by an Act of Parliament such as they hoped to see upon the Statute book at no distant date that such a principle could be carried into effect They had there representatives of other learned professions such as law and medicine, and he ventured to think that no member of those honourable professions would preferably revert to the days when it was possible for anyone to assume a title to which he was not entitled, as was unfortunately the case in their profession to-day. He believed he was correct in saying that the medical profession were some forty years in obtaining their Act of Parliament, and that they met with just the opposition which the Society encountered from quarters where one might expect to find support. They had therefore no reason whatever to be discouraged with the result of their efforts. So far, indeed, there was never a time when the prospects of some practical scheme of federation being accomplished were so good. A great change had recently taken place with regard to the attitude of the senior body, the Royal Institute of British Architects, in the matter. Two-thirds at least of its allied societies have decided for registration, representing a large section of the profession in the provinces, and the profession was, as a whole, practically solid on the principle, and it was only when it came to working out the details that differences arose. So strong had been the feeling in its favour among the members of the Institute itself that the Royal Institute of British Architects had appointed a committee to report upon the whole question He would not pledge the Council of this Society in any way, but he believed they would be with him in saying that they awaited the report of the senior body with some interest, as upon it would probably depend the future action of the Society in regard to the matter. He wished to dispel any impression that the Society was in any way antagonistic to the Royal Institute of British Architects, but they were endeavouring to carry through a measure which they believed to be in principle the only remedy for the present unsatisfactory state of affairs. It was only reasonable to expect a certain amount of opposition, but they were receiving support on all sides, their greatest difficulty being parliamentary procedure, which reduced to a minimum the chances of a private member's Bill. However, he would like to assure the members that the Council would not relax its efforts to attain the object which the Society had in view. It would be gratifying to all present to know that the Society was never in a better position, numerically and financially, than at present, upon its twentieth anniversary, and the Council had decided to set aside a sum of 1,000*l.* as a reserve which could be applied either for further promoting the Registration Bill in Parliament or for other purposes.

Mr. F M. SIMPSON, who also responded to the toast, said they had been told that architects needed a practical standard of ability. They must all agree with the truth of the assertion, but how was the standard of ability to be best obtained? The chief fault was to be found in the education. The present method that existed in England was a hindrance to the profession. In comparing the architecture of France and England he said that though French architecture was not greater than ours, yet the average standard of work was higher than in England, a fact due to the educational traditions of France, which had never been broken. In Germany and America the great excellence in construction was the result of systematic training.

The toast of "Our Guests," proposed by Mr. G. GARD PYE, was responded to by Alderman Sir H. E. KNIGHT and Mr. A. A. HUDSON.

"The Arts and Crafts Allied to Architecture" was proposed by Mr. ELLIS MARSLAND. Mr. A. W. W. DALE, M.A., vice-chancellor of Liverpool University, and Mr. C. H. BARNSLEY briefly replied.

A musical programme was followed under the direction of Mr. A. Winter.

A ROMAN QUERN IN MANCHESTER.

IN the course of the excavations for the new water-pipe from Thirlmere the workmen came upon a curiously shaped stone at St. Michael's Square, Ashley Lane. Intimation was sent by Mr. William Blackstock, the secretary of the waterworks department, and the stone was examined by Mr. J. J. Phelps, the hon. director of the Old Manchester and Salford Exhibition, and has now been added to the collection of relics at present to be seen in the City Art Gallery. The *Manchester Courier* says:—It is the lower stone of the quern, or domestic hand-mill for the grinding of corn, and, from the slope to the flow and the absence of grooving, may be taken as a somewhat early Roman type. It is about 16 inches high by 15 inches across. It is of coarse sandstone, and was found about 5 feet below the surface of the soil. The quern consists of two distinct parts, which united form the earliest machine for the grinding of grain. The lower part was circular in form, with raised sides, containing an opening, sometimes bridged over, for the outflow of the flour. In the centre of the floor was a socket, around which the upper stone was moved by an inserted handle. The grinding was heavy, and two women often worked together at the task. Rude as the quern may appear to modern eyes, it is a labour-saving contrivance of comparatively late invention. It was the classical tradition that the goddess Ceres taught men the arts of growing corn and of grinding and baking the grain in Attica and Sicily. For many ages mankind appears to have been content with mere pounding stones for the preparation of the grain. These corn crushers have been found in many different parts of the world. The saddlestone and the mortar were the next steps forward, whilst the quern is thought by Bennett and Elton to be "probably not earlier than the second century before Christ" The invention is attributed to the Volsinians, though a much later authority declares that the hand-mill, the windmill and the horse-mill all originated in Cappadocia. Virgil describes the peasant singing whilst grinding his corn in a quern, with the occasional help of his sister, and then sieving it until only the pure flour remains. "Two women shall be grinding at the mill; the one shall be taken and the other shall be left" is a familiar text which refers to the use of the domestic hand-mill. A quern which was found in cutting the Barton section of the Manchester Ship Canal may be seen at the Owens College Museum. It has a cross carved upon the upper stone, and in later examples these ornaments are sometimes quite elaborate A Roman quern now in the Chester Museum is almost identical in shape with that found at St. Michael's Square, except that the latter shows no groove markings.

The passing of the quern was a result of the feudal system. When the lord of a manor erected a mill he compelled his tenants to grind their grain at it, and he did not willingly permit any to invade his monopoly. When Thomas Grelle, baron of Manchester, in 1301 gave a manorial charter to his burgesses, it is stipulated that they are to use the mill and the bakehouse, paying "the customs as they ought and are wont to do." Ranulf, earl of Chester, who gave Salford a charter in 1231, says:—"If I shall have a mill there the burgesses may grind at such mill to the twentieth bushel, and if I have no mill there they may grind wheresoever they will." Dr.

Alexander Hume thought that the prohibition did not "prevent anyone from grinding at home for family use." But this appears to be an error. The contest between the abbots of St. Alban's, Cirencester, and their manorial tenants extended, with some peaceful intervals, from the middle of the thirteenth to the middle of the fourteenth century. The abbot's parlour was paved with the querns that had been seized in the town of Cirencester. The abbey of Vale Royal had the milling rights of Darnhall, and the burgesses, after vainly striving against the monopoly, had to submit. About 1330 a number of them appeared with holsters of straw round their necks and craved the pardon of the abbot for their insurrection, which had been a protest against the manorial law. Cecilia de Rumelia, the lady of the manor of Silsden, about 1150 endowed Embsay Priory with the mill of Silsden, and in the charter the use of hand-mills is expressly prohibited to the tenants. The customs of the mill of Dee in 1356 say that no one in the city of Chester shall have hand-mills to the prejudice of the said mills

How jealously the manorial monopoly was guarded may be seen from the history of the mill instituted by the barons of Manchester. Early in the sixteenth century the founders of the Manchester Grammar School bought from Lord la Warr, then lord of the manor, his water corn-mills on the Irk and their tolls. Lord la Warr promised that no more mills should be erected in the manor. The School Mills thus obtained a monopoly for the grinding of corn and malt for the town, and it became a frequent source of controversy. There was a lawsuit in 1592, and the Duchy Court of Lancaster then ordered that no hand-mill or quern for the grinding of either corn or malt should be used in Manchester. If, however, the grain was not ground within twenty-four hours it might be taken to another mill. A horse-mill was ordered to be destroyed in 1608. A new house started within the limits of the college which it was claimed was exempt, but the decision was against these innovators. Another legal decision prohibited some persons in Salford from supplying those who ought to be customers of the School Mill. In 1732 Sir Oswald Mosley started a malt-mill in Hanging Ditch, but was forced to give it up. The lessees of the School Mills were very unpopular. It was of them that Byrom wrote:—

> Bone and Skin, two millers thin,
> Would starve the town, or near it;
> But be it known to Skin and Bone
> That Flesh and Blood won't bear it.

A fatal riot arose in 1757 out of the dissatisfaction with the management of the Manchester mills, and in the following year an Act of Parliament was obtained which conferred the monopoly as to malt but absolved the people of Manchester from the necessity of grinding their corn at the old School Mill. One curious result was the absence of breweries from the township of Manchester, though they were to be found in the adjoining districts.

It will be seen that this fragment of a quern, discovered at no great distance from the ancient School Mill of Manchester, is a curious object-lesson in the social and political economy of our forefathers.

REGISTRATION OF ARCHITECTS.

THE following reasons for statutory qualification have been issued by the London committee of members of the Royal Institute of British Architects:—

The duty of architects to protect the public and their profession from unqualified and unprincipled practitioners is by no means a modern conception, and it is a duty which in other countries than ours is fully acknowledged, thus:—

1. The fourth International Congress of Architects held at Brussels in 1897 by a unanimous vote agreed to the following resolution:—

"That the architectural societies should unite and conduct an energetic campaign to obtain from their respective Governments the institution of the diploma."

2. The fifth International Congress of Architects held in Paris in 1900 passed a resolution, which was unanimously adopted, to the effect:—

"That Governments should take steps to protect and secure respect for the title of architect by reserving it for the future, and without retrospective action, for architects provided with a certificate of capability, or by forbidding its use by others; and, further, should place such certificates within the reach of all by the spreading of special architectural education and training."

3. The States of Iowa, Illinois and California have passed such a law, and other of the American States are seriously considering the question. The province of Quebec has adopted a similar policy.

4. Germany and Hungary oblige all public architectural officials (State or muni~~cipal) to have~~ a Government diploma.

5. In Italy, Spain and Russia our profession is a closed one.

The history of a country being written in its buildings, it is essential that they should be designed by those who have proved their qualification; and where the life, health and financial interests of a community are so largely concerned as in building operations, the public need assurance that those whom they entrust with such responsibilities are properly qualified to undertake them.

The public have a right to ascertain from an official register of names and qualifications whether the men whom they propose to consult have had a proper architectural training. In order to supply this want the Institute many years ago established an examination which they rendered compulsory on all who would be registered as qualified associates; but a large proportion of the candidates fail to come up for the third or final test because the examinations are voluntary as regards practice.

Until men find that by study and subsequent examination they are placed in a better position in the eyes of the public than those who possess no qualifications, it is unlikely that the majority will voluntarily avail themselves of the R.I.B.A. examinations.

It is universally admitted that well-trained minds and hands are better than the untrained.

The registration movement is a demand that this principle shall in the interests of the public be given a wider application in accordance with precedents set by other professions, in which gross ignorance and incompetence were a standing menace to the interests of the community.

It is not proposed that legislation of this character should prevent those not registered under its provisions from designing buildings, but they would not be allowed to call themselves architects, nor could they enforce in a court of law the payment of fees earned in that capacity.

The first effect of a Registration Act would be to put a stop to further increase in the number of incompetent practitioners, and thenceforth they would become a diminishing quantity. It is the younger generation of architects which would benefit. Each person claiming registration at the passing of the Act would have to sign an affidavit proving himself to have been practising as a *boná-fide* architect for a stated period or to be otherwise qualified.

In London, no less than in the country, architecture and public interests suffer by untrained men being permitted to practise.

Most architects are in favour of registration, although there are some who are opposed to it. It was the influence of a few eminent men in their respective callings which retarded for so many years the passing of the medical and legal Acts, which are now admitted on all hands to have conferred great benefits on the public and these professions alike. The small section of architects who are opposed to registration are entitled to their views, but they are not entitled to unlimited consideration to the detriment of architecture.

We claim a higher status for our art than it now enjoys. Such status is ever accorded by the community in proportion to the intelligence and thoroughness of the training a profession is known to possess.

The imaginative faculty—the very spirit of design—may be too subtle an essence to allow the degree of its existence to be ascertained. It may be possible, however, while maintaining the highest ideal, to exclude those who show, under reasonable tests, that they lack either aptitude for architecture or adequate training.

The great universities of America and Germany possess affiliated colleges which provide highly organised architectural courses leading up to degrees in architecture, and test artistic knowledge and design, as well as the science of construction. These facts support our contention that artistic acquirements can be tested.

It is of the utmost importance, however, that the qualifying examinations should be under the control of architects and not of general educational bodies. If the Royal Institute of British Architects now take the lead it will secure this position for itself

It is qualifying, and not competitive, examinations with which we are concerned.

The registration movement is a reversion to the principle underlying the ancient craft guilds, which made a test and registration obligatory. This is recognised already by the Royal Institute of British Architects so far as its own membership is concerned, and the registration movement is the logical application of this principle to all practitioners in architecture.

The Royal Institute of British Architects is the only body possessing the requisite influence to promote successfully this much-needed reform. The Institute, by leading the movement and carrying it forward to realisation, would establish a claim on the gratitude of all present and future architects. A grea and cultivated profession would thus become organised, to which the public would accord greatly increased confidence and to which it would be an honour to belong.

NOTES AND COMMENTS.

The Americans do not restrict themselves to a few classes of art when furnishing their museums, nor are they governed by modern ideas of fitness. Of what use can ancient arms be to a people who have invented several forms of rifles and cannons, and who possess means of destruction which would appear beyond the dreams of visionaries in the days of chivalry? Yet they have purchased the collection of arms which belonged to the Duc de Dino, and have expended about a million of dollars in order to possess such obsolete weapons. The artistic and historic interest of the pieces undoubtedly was the attraction. Among the contents are a casque which belonged to Henri II. of France, who succeeded François I. in 1547; a suit of armour worn by Philip II. of Spain; a helmet of Vasco da Gama, the Portuguese explorer and warrior, who may be said to have discovered India for Europeans, besides samples of armour made for Louis XIV. and Louis XV. which were never intended to be tested in the field. For some the most interesting object is a headpiece which is said to have protected Joan of Arc.

One of the architects who took a leading part in the restoration movement at the time when it excited most interest in France was Henri Révoil. A native of Nîmes, he was entrusted with the works of many of the most important historic buildings in south-eastern France. He was too important a Frenchman for his compatriots to allow him to be deprived of a memorial. Accordingly, one is to be erected in the public gardens of Nîmes. In its production M. A. Ballu, architect, and M. Belloc, sculptor, have co-operated in producing the design which is about to be carried out.

Conflagrations are terrible subjects, but they are seldom represented on a large scale by painters who have acquired reputation. In Millais's *Rescue*, painted in 1855, the fire was confined within a very limited area. The artist afterwards was able to be present at a big fire, but he did not attempt another painting, as the first gave him much trouble. M. Détaille a few years ago painted a fire scene, but he bestowed attention mainly on members of the French Government and the Paris municipality, who are introduced among the engines and hose in the foreground. Curiosity must therefore be excited about the manner in which M. Chartran will deal with the Baltimore fire. He was in America painting portraits, and happened to be at Baltimore when the fire broke out. He utilised the opportunity, but he has not yet worked up his sketches into a picture. M. Chartran expects to have an exhibition of his works in London in a short time, and they are sure to command attention on account of their artistic power.

The announcement by the Rome correspondent of the *Times* that an effort was to be made to obtain the co-operation of other civilised countries in raising money to enable Herculaneum to be explored is enough to excite the interest of archæologists and scholars. When its destruction took place Herculaneum was considered to be of more importance than Pompeii. It is therefore possible that beneath the town of Portici, which occupies the site of Herculaneum, there are treasures which excel any of those which have been revealed. What may be called the "made ground" has, however, prevented the required examination. It was only by accident (for the sinking of a well originated the revival of interest in the buried city) that the easy-going Neapolitans were made aware that Herculaneum and all it contained had not entirely vanished. The first attempts at exploration were conducted in so unscientific a manner that the King of Naples acted wisely in prohibiting attempts which were not under official direction. From the letters of De Brosses, and from those of Russell, the English artist, we are able to realise the manner in which the work was done. A very different system can now be adopted, and although it is never likely Herculaneum will become as manifest as Pompeii, there is no doubt that the world will gain by the contemplated efforts.

ILLUSTRATIONS.

HOUSE AT CROWBOROUGH, SUSSEX.

THE house is to be erected on the site of Forest Farm, Beacon Road, having extensive views to the south, overlooking Crowborough Common and golf links, and the north and west, overlooking well-wooded country. The materials will be red brick base with local stone quoins and dressings, the upper portion being half-timbered with stucco filling; flint work will be used to bay windows and the roof covered with Broseley tiles. The architects are Messrs. Ernest Rüntz & Ford, of 10 Walbrook, E.C., and of Lewes, Sussex.

OAKHILL DRIVE, SURBITON.—GARDEN FRONT.

THIS house, which has recently been built, is approached from Oakhill Road by a straight private drive 400 feet long (whence the house derives its name), having a carriage-court at its termination on the north-west side of the house, where the entrance porch is situated. The kitchen garden has a frontage to Kingsdown Road. The ground falls away considerably from the house on the garden side, so that the terrace, which is 30 feet wide, stands 5 feet above the level of the tennis and croquet lawns, and has a brick retaining wall with steps. The facings of the house are of Crowborough bricks with red dressings. The bay-windows of the dining-room and drawing room are of Monk's Park stone, and the rest of the windows are of wood painted white. The copings and caps are of Robin Hood stone. The roof is covered with light sea-green Westmoreland slates from the Tilberthwaite Company's quarries in diminishing courses with lead ridges. The hall and staircase are lined with white panelling, and the doors of the principal rooms are of polished mahogany. A feature has been made of the loggia (or open-air room) facing south-west, which can be approached direct either from the drawing-room, billiard-room or hall. Like the porch, vestibule, cloak-room, &c., it has a mosaic floor. Besides the accommodation shown on the ground plan, there is a sitting-room on the first floor opening on to the balcony over the loggia, which has a large awning to cover it; and ten bed and dressing rooms with three bath-rooms, dark-room for photography, and the usual offices. The heating was carried out by Mr. Edward P. Milne, of 15 Craven Street, Strand, both the domestic supply and that for the radiators (though separate) being heated by Milne's patent duplex boiler in the basement. The electric-light installation is by Mr. G. A. Steinthal, of Bradford, and the fittings by Mr. Montague Fordham, of 9 Maddox Street, W. Mr. Frank Hawkey, of Surbiton, was the builder, and Mr. Walter E. Hewitt, A.R.I.B.A., of 22 Buckingham Street, Strand, W.C., the architect, who also designed and superintended the laying-out of the grounds.

THE OLD BROKEN BRIDGE AT AVIGNON.

ACCORDING to an old provincial legend this bridge was said to have been built, through Divine inspiration, by a shepherd boy named Bénézet, who guarded his flocks on the mountains of Vivarais. The story runs that one day when he was alone on the mountain side an angel appeared to him, and told him that it was the Lord's will that he should construct a bridge of stone across the Rhône at Avignon and that he was to announce this Divine message to the Pope and people of Avignon. Accordingly he set out at once, and, entering the cathedral while the Pope was celebrating Mass, proclaimed his mission, to the astonishment of the congregation, who, however, believed in the miracle, and the Pope gave orders that the shepherd was to carry out the work. This was done, and the bridge erected. As a matter of fact, the bridge was built in ten years—1178–88—by the monks of the pontifical abbey of Maupas, now called Boupas, situated on the river Durance, between Avignon and Cavaillon. This Order was an association of Frères constructeurs, as they were called. Later on the same monks constructed the bridge of St. Esprit. Originally the Pont d'Avignon spanned the island of the Barthelasse, and ended at the tower of Philippe-le-Bel at Villeneuve, a distance of 900 mètres. Of the nineteen original arches only four remain.

CATHEDRAL SERIES.—CHESTER: THE NAVE, LOOKING NORTH-EAST.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday, the 22nd inst., Mr. H. T. Hare, president, in the chair. It was announced that a reception of members and donors to the New Premises Fund will take place on Tuesday, May 10, at Tufton Street. As the reception will not in any way be a formal one, members will receive no special invitation; but if they care to see what has been accomplished at such expense and trouble they will be welcome. The members' dinner will be held at the Criterion Restaurant, Piccadilly Circus, on Friday, May 13.

The following were elected as Members:—Messrs. S. B. Neate, H. B. Elkington and R. J. Casement. Mr. Frederick Wheeler has been reinstated as member.

Mr. Walter Gilbert then read a paper on

Craftsmanship.

It is with diffidence that I speak to you on a subject and under a title which you have chosen for me and which I should not have dared to have chosen for myself; still it is one nevertheless which has always had a peculiar fascination for me, and since this is a year which will mark an epoch in the existence of the Association of which you have been kind enough to honour me with membership, I venture to convey to you suggestions as to some of the uses of that school in Westminster which, by its enlarged opportunities, will give such impetus to that energy and enthusiasm which has prevailed for so many years in this Society, and be a renewed and extended means of providing greater co-operation between all who work for the completion of a building beautiful in its structure and its adornments.

The word craftsmanship conveys to us the thought of human achievement, that "homely fancy and lovable humility" which seems so synonymous with Mediæval art. But it is more than this, for it is the expression of the national life and thought of a nation as told by the products of the hands and brain brought forth by necessity.

On the one hand you may have the craftsmanship of the savage, fierce in the joy of ornamenting his weapons of war; on the other hand that of the Greek—godlike in his certainty and correctness, conveying always the sublime assurance in which the dignity of the mind was always paramount—or contrasting with this philosophic calm and correctness that of the Mediæval age, in which you have the expression of the mind in its very humanity—the humanity absorbed by the overpowering Deity, in which man exposed his human traits and weaknesses in the expression of his hopes and fears, his desires, his success and failures, his loves, his sports and the glories of his house, his dress and his town; or you have that later work of the early Renaissance days, when we have the commingling of the humanity of Mediæval times with the legends of the Greeks.

Craftsmanship originated when the savage made his first article of necessity, and the genesis of the inherited trades which afterwards developed into the Mediæval guilds was when the father handed that knowledge and experience to his son. In early days the inheritance of trade was compulsory by law, and a son was compelled to follow his father's trade and carry on the secrets peculiar to that business.

It is a very short step from this, as demand grew greater, for the adoption of a relative, and eventually one not even of blood relationship, into the family circle by a compact for mutual benefit.

And with this growth of society men felt the necessity of a more extensive brotherhood than their own immediate relationship, and they began to band themselves together to protect their own trade, to maintain their independence and to render and receive aid when needed. These organisations, which were of a very ancient date (for we have the origin of freemasonry at the building of the Temple and the Solonic laws in Athens, recommending the founding of trade societies as promoting the benefit of the whole community; and in Rome Numa Pompilius, uniting musicians, carpenters, coppersmiths, dyers, jewellers, shoemakers, potters and tanners into associations; in England, Alfred and Ina of Wessex framing laws for them), these organisations, through the expansion and increased vitality of industry, developed into those powerful societies known in the Middle Ages as the Craft Guilds.

These guilds were designed to suppress trade frauds, insure skill and care in workmanship; to secure the proper use of proper tools; to provide for due remuneration and recreation and the permanent employment of craftsmen; to check injurious competition; to fix the rates of wages; to arbitrate between customers and craftsmen; to fine incompetent workmanship. (Our modern trade unions strike against low wages, but I never yet heard of them striking against doing bad work.) They were associations for mutual help, and poverty was unknown. When a craftsman wandered he was received as a brother in his particular craft, and one can well imagine the ready and keen delight with which he would be asked for and would give information of the great work that others in the craft were doing in other places. These sojournings, too, with the wonderful ideas which would be passed along, would encourage men to realise the gradual growth of that strength which eventually made them the masters of the cities and the advisers of the State.

Apprenticeship was absolutely necessary and compulsory among the producers of the art of the Middle Ages. There was little or no division of labour among them—a man knew his work from end to end. Each skilled craftsman might only take one or two apprentices at a time, for they learnt by working with him. A likely youth was known to the rulers of his craft from his apprenticeship, and his progress was watched by them as by members of his family. At a certain stage the apprentice, by executing a piece of work and showing the excellence of his skill, became a master and a voting member of the guild, and only thus would he be allowed to become an employer of labour.

Then as a citizen the dignities of the cities were open to him and the great things of his art. He might become the executant of those imperishable records erected by a grateful state to commemorate the services rendered by a distinguished son to her glory, or his genius might become the source of pleasure and pride which his sovereign would take delight in lavishing on the rulers of neighbouring states or those whom he desired to honour.

Thus under the Craft Guilds each fully-instructed craftsman was by all surrounding conditions encouraged to be an artist whose labours gave a joy and a pleasure to his existence; and by this means taste and knowledge of what art was then possible spread widely among the people and became instructive in them, so that all manufactured articles, as it were, grew beautiful in the unobtrusive and effortless way that the works of nature grow. The result of five centuries of this popular art is obvious in the outburst of splendid genius which lit up the days of the Italian Renaissance. Men whose hands were skilled in the fashioning of things could not help thinking the while, and soon found out that their deft fingers could express some part of the tangle of their thoughts. They introduced the elements of hope and of pleasure into all their labour, they took an active interest in their work. The exquisite armour of the knights, their swords and their lances, the decorations of their buildings, their hangings and their furniture, their domestic utensils, their dress and costume show that the art of the Middle Ages was a thing loved and cherished and made beautiful for its own sake.

All the guilds chose some particular saint to protect them, and where possible they chose one of peculiar interest to their trade.

With the great wealth acquired by degrees and by reason of their power in the State they provided masses, altars, painted windows, and even whole churches in their honour, and their important functions occurred on the namedays of their saints.

The ostentatious displays and quarrels of the noble caste, while providing the opportunities for the skill of the craftsman, released him from his servitude and provided those political rights, of which he so skilfully availed himself that he quickly became the ruler of free cities and the explorer of unknown lands.

And it was this overleaping ambition which was the ruin of the craftsman and his art. For just at this period conditions arose which gradually turned the workman from the Mediæval craftsman into the mere artisan labourer of the capitalist system—the guild system was ousted out by the workshop. The discovery of America, of the Cape route to India and China, the conquest of Mexico and Peru, the battles in the Levant, all combined to overwhelm the natural means of production. New worlds of adventure, new worlds of thought—the inexhaustible and previously unheard of and even undreamt of supply of precious metals in their raw state—the enormous abundance of every material and riches gained by commerce forced on development at headlong speed.

To keep pace wider organisations of labour were needed, a more and more regulated division of labour became essential to compete with this haste to seize opportunities, workshops grew larger and larger, the workman ceased to own any portion of his productions.

The increasing amount of capital also needed for success in business as the markets grew and the towns supplied not only the country but foreign lands, gradually broke down the democratic constitution of the trade. It was no longer a matter of course for a capable apprentice and journeyman to become in due time a master of the craft; on the contrary, the capitalist master exercised increasing authority within the guild and turned its machinery to the disadvantage of the poorer members.

And it was this subdivision of labour which brought about the divorce of the artist and the craftsman, this overwhelming flood of demand which engendered the scientific spirit which concentrated its energies to the increase of wealth. And art by no means stood still in these latter days of the Renaissance, but took the downward path with terrible swiftness. So in this ever-increasing flow of trade the craftsman was separated from the artist, the thinking powers of the one were eradicated, and the knowledge and ideas of the other were limited to effect the greater expedition of the work, and so, by the abuse of drawing as an art rather than as a means to an end, brought about step by step the separation of art from utility. It was this which bred the commercial spirit which is so rampant even to our own time.

Art is man's expression of joy in his labour, and this stereotyping influence, with its scientific and mathematical laws for the unnatural and forced production, brought about the degradation of craftsmanship and became the means of the extinction of art. Sham art is irksome to do and degrading labour, and the result was that the crafts became so degraded by past workmanship that educated men appeared to lose caste by touching the work.

The world had advanced too quickly for the artist, constitutionally conservative in ideas; but it is as useless to attempt to stem this tide of energy and requirements by using Mediæval methods of production as it would be to attempt to stay the sun in its daily course. Nevertheless it is the artist's duty to bring his brain to bear on our requirements now as much as one did naturally in the past, and even more so, for the difficulties to overcome are greater. And however one may regret the necessity, the artist must adopt the modern methods of production, making the machine subservient to his will and the instrument of his power.

In the course of a recent criticism which I ventured to make on the methods and work of Birmingham casters and die-sinkers, I received a letter from a Birmingham firm of die-sinkers complaining that machine work was cutting out the hand work, and since apparently men seemed only to be getting labourers' wage the art of die-sinking would soon be an art of the past.

I have here some medals lent me by my friend, M. Janvier, which I think, after making all allowances for the national differences of temperament in viewing art effectually, dispose of the fallacy that a machine reproduction of artistic value is impossible.

In die-sinking and stamping it is, as in everything else, the mind which inspires and asserts the mastery over the material and the machine, and I recall the use of a tool worked by an electric battery under the guidance of hand by means of which much beautiful carved silver work by Professor Herkomer, and that band of craftsmen now dispersed, was executed, among other things, the badge and chain of the President of the Royal Water-Colour Society. I do not deny that such methods are liable to great misunderstanding, but the methods are here, and it is our duty as artists to improve taste and production by their means.

Another cause of the decline of art, and especially in its relation to architecture, as I have pointed out, was the separation of the artist from the guilds. His withdrawal to himself became his own extinction. The want of co-operation of many individuals, each working in the same art, though in different crafts upon the same building, begat the clever draughtsman and the exploiting execute—Everything & Co., Ltd. For self preservation and for the sake of his art, then, craftsmen must band together. The metal worker who gives the spark of life and interest on the handles you grip when you enter the doors, or the electric fittings which light up the walls of the joiner and carver or the enrichments of the plasterer, is of no more or less importance to the whole than the decorator who has given you the poetry on your walls, or the silversmith who has adorned your table.

There must be no precedence but constant endeavour in the one craftsman, that his work in his own material and artistic inspiration may not be unworthy to be placed alongside the decorations of his colleagues

To apply art to useful wares is not frivolity but a part of a serious business. Let us educate ourselves to be good workmen and competent judges of good work; this at all events will give us real sympathy with all that is worth doing in art.

It was to this absolute necessity for the establishment of guilds of trade in an active and practical form for the purposes of ascertaining the principles of art proper to their business and instructing their apprentices in them, as well as making experiments in materials and newly-invented methods of procedure, that Mr. Ruskin referred in his inaugural address at Cambridge in 1858.

The responsibility for obtaining good work, he says, lies with you, gentlemen.

Another means to resuscitate art in its application to the building is by the proper use of schools. But school learning, however practical, can only form a portion of the true education of the true craftsman. The late William Morris once said that to attempt to train a craftsman in a school is like trying to teach a boy to swim without water.

The organised crafts must find the way by which the essentials of apprenticeship shall be obtained in the shops and in the works.

The essential of apprenticeship is one association of the learner and craftsmaster in real production.

Problems of setting out and actual work should go hand in hand. All the technique of the crafts must be learnt in the shops. The schools at their best are only as books of reference to the scholar for information to be gathered to supplement the work done during the day in the shop, and this information should have direct bearing on his work.

Education which is not technical is not technical education. Education is technical only as far as it is directed to the training of the individual in and for his business in life. To give the same instruction to the young builder, the young jeweller or the embroideress is not technical education at all. It has nothing to do with his trade or industry.

The schools must be places for serious and responsible educational work, not places, as I fear at present in many cases, and as I know, for I have been connected with art schools for many years, for teaching at playing or playing at teaching, but well organised, well disciplined institutions where the professional art student has no permanent sinecure or abiding place. The day classes, if required, should be accessible to all by their cheapness and their high standard, which exclude the incompetent.

The embryo architect—as my colleague, Mr. Bankart, suggested here in this room the other night—should devote his whole mind to becoming an artist in building, and should never lose touch in the school with actual handicraft; if you begin by studying one craft you will end by studying many.

Never make a design without understanding how it will be carried out, or you will give the workman unnecessary trouble, or set him impossibilities which will make him lose the possibilities of the material.

Learn to handle the clay so as to learn the difficulties and impossibilities you often set the carver; you will then be only be doing what your predecessors in the art of building did in the Middle Ages.

Express yourself in one art and you will do so in many; so did Giotto, the Pisani, Brunelleschi, Bramante and Michel Angelo; so did the great masters of the Middle Ages; so did Alfred Stevens, and more recently still, Morris.

We artist craftsmen owe much to the energy and collaboration of the architects. The collaboration of architects helped much towards the success of the Art Workers Guild, a society which, as you know, was the means of bringing the late John Sedding into touch with many artists, and prompted him to gather round him in his last great work—the great church of Holy Trinity, Chelsea—some of the foremost craftsmen of the day. It is due to this Association that we are able to admire in this building not only this genius of Sedding, but the craftsmanship of Onslow Ford, Bate, Pomeroy, of Morris and others, all expressing Sedding's earnest endeavours and intentions to surround himself in his work with craftsmen of the best, though this design cannot be said to be complete since it exists without Sedding's main idea—the painting of Burne-Jones in the panels of the roof and the frieze.

Striking testimony to the truth of the utterance of Wm. Morris when, in the address he delivered at the Birmingham School of Art at the time that I was a student there, he declared that "We are not quite yet on the right road towards a satisfactory condition of art," and added that "When I say we, I do not mean in this country in especial, for indeed at home here we seem better off than in other civilised countries," was borne at the International Exhibition of Modern Decorative Art which was held at Turin by the representative of Sweden upon the jury. He said that it would be a duty of the jurors to give special homage to the art of England, proposed that a grand and unique diploma of special honour should be created as an act of homage and thankfulness to this country for the inauguration of the Art Revival, and that this diploma should be entrusted to the Arts and Crafts Exhibition Society. But with all these efforts we have not yet arrived at the time when the craftsman and the craftsman's difficulties are thoroughly appreciated by the architect.

The architect even now forgets to stipulate, in some cases, that the decoration of his building shall necessarily come direct from the artists themselves—he even now not infrequently includes all his work in the contract of the builder. It is true, as Professor Lethaby says:—The architect does not insert in his quantities "supply and fix one work of art," nor can he expect it, since often the builder in his turn seeks tender from those who accept his terms.

All this tends either to the absorption of the artist by the capitalist firms, or as is in our case, the amalgamations of artists for their own mutual strength.

I have now spoken too long, and, in conclusion, I would now plead for your help for the craftsman.

The only way to get good work is to make the artist and the craftsman feel you appreciate it, that you must have it for your own buildings, that you will reject all other. Good work ought to delight you; the aim of art is to increase the happiness of men. In the mood of idleness memory amuses, in that of energy hope cheers; to satisfy that mood of energy is to employ it in producing something worth doing—a lively hope to the worker while he is executing, an absolute immediate pleasure in working—which is always present in the handiwork of the skilled workman finding his expression in his art.

Give a free hand to the craftsman; his special knowledge has only been rightly learnt by the experience of years in the particular work required. Certainly the architect must be one of the body of artists; there must be a real communion or common understanding between us all, but, however clever the architect, it is impossible for him to do the whole of the building, however great the man. Though he may design, under present-day conditions he cannot execute, and something of his genius must be in all the other members of the great body which raises the complete work. The craftsman has experienced the power of each treatment and the difficulties connected with it. It is only by repeated touch and continual trial beside the forge and the casting-tub that the designer will know the limitations of his art, the smith can master his materials and the modeller appreciate the difficulties of the moulder.

I am not advocating or suggesting that the craftsman is the pre-eminent factor in a building, because such would not be true, but I do appeal to you that you architects should more and more design your buildings with the thought of their embellishment in your mind, and from the start afford us those opportunities which otherwise we are powerless to attain. It is only by earnest communion of ideas and source of opportunities which you can give us that we shall recover the threads of the glorious traditions of the past, and avoid the blatancy of much of that modern work whose origin and existence has been caused by the loss of architectural control through neglect in the past.

It is only by such opportunities that the sculptor, the metal worker, the plasterer and the decorator will be tempted to throw off the academic spirit, feeling the joy and the pleasure of his art being once more a living art coexistent with its surroundings, not at all the caprice of the moneyed few in inharmonious and piecemeal settings, but living and forming the keystone of the whole, being the light of day itself. Then, with these opportunities and these experiences we should not hear the carping criticisms which so readily fall on men who, the slaves to their art, and under the greatest difficulties which modern builders place in their way endeavour to revive the glorious wealth of colour, richness and poetry which flooded those Renaissance streets. I have in my mind those two much criticised works of Alfred Gilbert—the Shaftesbury fountain and the Newcastle statue of Queen Victoria—both delightful conceptions of that great master of poetic fancy—full of the light and shade afforded by a masterful treatment of material, bristling with difficulties in their execution because of the lack of opportunities or sympathy in this cast-iron utilitarian eager-to-say-smart-and-cutting-things country of ours.

Many men design themselves. Ruskin, in his address to you in 1857, said:—"If you have genius you will yourself take the lead in the building of your design, but for all subsequent treatment you may trust to the agency and invention of others, and it rests with you either to repress what faculties your workmen have into cunning subordination to your own, or to rejoice in discovering even the powers that may rival you and leading forth mind after mind into fellowship with your fancy and association with your fame." My excuse for addressing you to-night is that as a craftsman (our business is to form the market as much as to supply it—as architects—yours to educate your clients to this market as much as to build for them) I feel that I cannot express my thoughts to you half as forcibly as Mr. Aston Webb did in his last inaugural address but one to the Royal Institute of British Architects, when he said "we rightly have a voice in the selection of the artists and the craftsmen who work on our buildings, from the sculptor and painter who decorate them to the locksmith and upholsterer who furnish them." Great encouragement may be given to the subsidiary arts if we take the trouble to find out individual artists to work with us in the various branches of the applied arts, and while fully illustrating our intentions giving them sufficient freedom to carry out their imagination and inventiveness with their full share of credit. Depend upon it, great discouragement is caused to earnest workers and much harm done if just to save time and trouble we take the first article of commerce which comes to hand.

At the conclusion of the paper several slides were thrown on the screen illustrating the opportunities afforded in Mediæval, Renaissance and modern times to the craftsman, especially to the worker in stone.

Mr. E. Guy Dawber said he did not see why he should be called upon to propose a vote of thanks to Mr. Gilbert when there were other fellow-craftsmen present. It afforded him, however, great pleasure to do so, more especially as craftsmanship was a subject with which he had special sympathy. The poor attendance was regrettable, because the paper was full of interest for students of architecture, and traced in an admirable manner the progress of craftsmanship from the Middle Ages, through the Renaissance, and up to the present day. Of course it should be remembered that in the days Mr. Gilbert was first speaking about there was no such word as craftsmanship in its present distinctive sense. Every worker was a craftsman, and up to the end of the eighteenth century all work produced in this country was craftsmen's, whether it be masonry, blacksmiths' work, bricklaying, stone carving, carpentry, or anything else. It is in this fact that we must find one of the reasons by which we are placed now on a footing altogether different to that of past times. The British as a nation, it must be confessed, are absolutely inartistic, and though the appreciation of beautiful influences is increasing in England, it is very slow, and only exists among the cultured few. For a case in point it is sufficient to look at the magnificent boulevard in process of construction from Buckingham Palace to Charing Cross, and then examine the electric-light standards that are to be placed along it. If this is done, and the question is put to oneself, "Do we as a nation care about things artistic?" the answer is a foregone conclusion. There is another point Mr. Gilbert overlooked, and that is the question of cost. The primary requirement to-day of every building, whatever may be its purpose, is that it shall provide as much accommodation as possible for the money laid out, and this has to be the aim of the architect. The expense of craftsmanship, that is of the things produced by the professional man, is indeed altogether beyond the reach of the majority of clients. Until craftsmen can produce things of everyday use which will compete in price and quality with the manufactured articles no comparison can be made. Architects are reproached for not designing buildings with the decoration in view. No doubt in past times all the allied arts were put in one building, but that is not the case to-day. When such a proposal is now made, it is found that the ideas of clients are entirely different to what they must have been then. Quite apart from the question of cost, it is an extremely difficult thing to convince people that the beautiful things which appeal to architects are desirable. They may be positively objected to. However, the whole tendency of to-day is the greater appreciation of the craftsman and his work. A powerful influence towards this end is the organisation of exhibitions which bring the personality of the worker before the public, and there is no doubt that their continuance will still further assist the movement. The craftsman should not reproach the architect with neglect, as has been explained before, because in ninety-nine cases out of a hundred it is a question of expense pure and simple. This truth cannot be insisted on too often. Every architect when he is designing a building is only too glad to summon the craftsman. But those cases are quite exceptional where this can be done. It is satisfactory to find that Mr. Gilbert did not put forth the pernicious but often-heard theory that it is impossible for an architect to be true to his calling unless he can make things with his own hands. This accomplishment is emphatically not indispensable in order that the crafts may be correctly directed. It is enough if the spirit and meaning of the old methods is grasped by well-directed study. The greatest architects have shown this, and in collecting around them a band of artists they have in common striven for and achieved one homogeneous result.

Mr. H. Longden, who seconded the vote of thanks, thought there was an increased tendency among architects to gather around them a body of men capable of carrying out work from given designs, so as to be harmonious in its result. In his opinion, some of the most beautiful buildings have been arrived at by architects who design with an expert at their elbow. There is much less chance of doing a design well if one is ignorant of where it is going, or even if it is wanted, than if the particular circumstances are known. Allusion was made in the paper to the late John Sedding, who had a peculiar gift of drawing what was best out of a man. This was illustrated on one occasion when he was watching some ironwork being made for the great church of Holy Trinity, Chelsea, from his designs. He saw that the man at the forge had realised and seized on what was in his (Mr. Sedding's) mind when drawing the design. Sedding went up to the man and shook him by the hand, saying, "That is just what I wanted." The incident is not to be taken as an incentive for architects to shake hands with every satisfactory operative, but as an instance of the way in which Mr. Sedding was able to inspire men to do what he wanted. Craftsmanship continued to a much later time than the paper would seem to convey. Quite recently pride was taken in work done. A man did his work and then looked at it with satisfaction, and if he was told the work was good he was still further satisfied. The wages received have always been much about the same, or rather the purchasing power of money has corresponded with the money earned. The training of a man in former times dated from the days of his apprenticeship, and was continued with a definite goal in front. This engendered a desire for thoroughness. Examine, for instance, an old fire-grate dating perhaps from the eighteenth century. It will be found to be practically as good as when it was first made, except for a little burning away in the most exposed part. Such work as this has been put, however, into houses until much more recent years than the eighteenth century. Now such a happy state of things has ceased. Manufacturers turn out their wares so that they can be put together with the least possible trouble. A large proportion will not be in place even twenty years ahead. As regards making artistic work, one method that has been proved by experience is to get hold of a good workman, trained as of old to a particular branch, and then put before him the kind of work desired. Afterwards show him drawings of old examples, pointing out the things worthy of admiration, and he will himself soon achieve results worthy of the present age. A modern development of education is the technical class and school where beautiful things are done in many of the crafts. Very often these young students are hard at work all the day and attend the classes at night. The labour is great but it is well-nigh impossible to become a craftsman by class training alone; it is essential that the unique experience of the workshop should be acquired simultaneously to strengthen the other.

Mr. Belcher insisted on the point that if the public desire good things about them they must not object to paying a good price for them. An obstacle to the progress of craftsmanship is the gulf that now exists between the producer and the purchaser. It is necessary that purchasers should feel some personal interest in the producer besides a general interest in what is produced. The means of effecting this must be exhibitions. It might be with considerable truth contended that a technical school in itself is useless without a practical application of the instruction given. But the point most nearly concerning young architects is that they should repeatedly impress on the public the truth that it is impossible to get something good without paying adequately for it. For example, a cottage that would cost 500*l.* cannot be put up for 250*l.* People must be taught first to love the arts as being good and advantageous in themselves, and secondly as being things of beauty.

The President said that the question of craftsmanship was a burning one, and that the subject is so big it will bear a good deal of discussion. Some architects hold that everything is craftsmanship, and that there is no such thing as architecture; that if a man makes himself a craftsman it is all he can do; he may afterwards become an architect. The theory is, however, dangerous, for with such a training a man might get a smattering acquaintance with everything, but a full knowledge of nothing. An architect can understand things sufficiently to direct others, although incapable of doing the work with his own hands. Mr. Gilbert's review of the rise and decline of craftsmanship was both useful and instructive. In the present day it has been somewhat, and is being, revived People are eagerly looking forward to the day when the craftsman will be reinstated into the position he occupied in the Middle Ages. To some extent the future depends on the men themselves, *i e.* on their work. It must be confessed that the start has been unsatisfactory, for the threads of tradition have not been picked up. An effort has been made to do work on what was considered more or less original lines. It is extremely doubtful if better results would not have been accomplished if the point of recommencement had been where the preceding craftsmen had stopped rather than striking out a new line away from the past. The craftsmanship to be seen now is often totally different to what one has been taught to admire. This is not meant altogether as a disparagement of the work being done, which is frequently excellent and in its own way possibly up to the work of the Middle Ages. But some people cannot help wishing that tradition had been seized upon and turned to good account. From the craftsman's point of view the ideal way to carry out a building would be for the architect to design the general carcase and calling in a number of craftsmen hand over the decorative parts of the building, giving them a free hand. Theoretically that sounds a most magnificent idea. It was propounded to the speaker some years ago by one of the foremost craftsmen. Before the chance arose of carrying it out someone else made the experiment, and the result was instructive. Each artist had been allowed to do as he liked, and this he did without the faintest attention to what was being done by his neighbour. The effect was positively appalling. With regard to the objection of expense, it stands to reason that it is impossible to get what has cost a man many hours of thought and labour without properly paying for it. There is no way of escaping the fact. But the ordinary article of commerce might be rendered beautiful very easily and yet left within the reach of every purse. If wholesale manufacturers could be got to produce such things they ought not to be more costly than ugly things. Anything special must of course be paid for at a separate price.

Mr Gilbert briefly replied.

THE COTTANCIN SYSTEM OF ARMOURED CONSTRUCTION.*

The development of concrete steel (to give it its briefest designation) has of recent years been simply phenomenal, especially on the Continent and the United States of America, and the reason why the author has selected this system out of the some 200 different ones extant to bring before the notice of the Society is because it is in the domain of architecture that it has demonstrated its marked superiority, the nature and arrangement of its materials permitting in the hands of a skilful architect a far greater latitude for obtaining decorative and constructional effects than can be obtained in ordinary practice.

This system, which is named after its inventor, M. Pau Cottancin, an eminent French engineer, was initiated by him in the year 1889, and it is therefore one of the oldest systems in France. Since then it has been employed extensively in the United States, Portugal, Belgium and other countries. It was first introduced into England in 1902 by Mr. Arthur Vye-Parminter, an English architect practising in Paris, it being used in the erection of St. Sidwell's Wesleyan church at Exeter, and other places that will be hereafter described, from which it will be seen that it is not only applied to buildings in their entirety, but also to bridges, tanks, aqueducts and other numerous forms of engineering construction.

The principal advantages claimed for these methods of armoured construction may be briefly enumerated as follows, viz.:—(1) Their fire-resisting nature. (2) Absolute cleanliness. (3) Durability. (4) Resistance to shocks and vibrations. (5) Economy of space. (6) Adaptability to every variety of form and shape. (7) Rapid construction. (8) Impermeability. (9) Cheapness. (10) Maximum supporting capacity with minimum dead weight. (11) No maintenance expenses. (12) The facility of obtaining and transporting their component materials. (13) Reduction of insurance. (14) Greater substance than iron or steel plates, combined with the advantages of these two materials.

All the materials used in these constructions are of the best procurable of their respective kinds, the greatest care being invariably exercised in every operation connected with their preparation and use; and the most unremitting supervision must be given to all labour employed upon the works in which they are to be incorporated.

The cement should be Portland of the highest class, slow-setting, of a true blue or greenish-gray colour and good age. It should be very frequently tested, and any failing to reach the requisite standard must be unhesitatingly rejected. The advantages of a finely ground cement, *cæteris paribus*, cannot be over-estimated, and it is now possible to obtain cement which will leave on a sieve of 32,000 meshes per square inch a residue not exceeding 9 per cent. The results of some compression tests made with concrete in the proportion of 5 to 1 with this cement and a coarser cement which left a residue of 4 per cent. on a sieve of 5,800 meshes per square inch, showed that after 21 days the former gave 180 tons per square foot against the latter's 103, after 42 days 245 tons against 164, and after 56 days the former gave 252 tons per square foot, a result which will show a favourable comparison with granite. However the usual grade is a cement which shall not leave a residue greater than 10 per cent. on a sieve of 5,800 meshes per square inch, and gives a tensile resistance of 400 lbs. per square inch after seven days, and 500 lbs. after 28 days immersion in water.

Sharp coarse sand must be used, very gritty, and of different sizes, especially where impermeability is essential. It must be perfectly clean and entirely free from earthy or argillaceous matter.

Good hard broken stone with a minimum of mica or gravel and ballast of various sizes sufficiently small to pass through a $\frac{3}{4}$-inch mesh sieve. The same remarks as to cleanliness, &c., apply to the composition of the aggregate, as well as the sand. No limestone even of the hardest quality must be permitted in fire-resisting work.

The proportions generally used for the mortar for jointing the brickwork, filling the holes in the bricks, and forming the upper and lower surfaces of the trellis panels is 1 of cement to 3 and occasionally 4 of sand. This mortar should almost have the liquid consistency of a grout to facilitate its passing into the perforations of the bricks and tiles and the interspaces between the wiring of the reinforcement. The concrete used is generally proportioned at 4 and 5 to 1, and 3 to 1 for work that has to withstand the percolating action of water.

According to Professor Ira O. Baker, good concrete can be strengthened nearly 10 per cent. by prolonged trituration and attrition of its constituents, and recent experiments have demonstrated the superiority of mechanically mixed concrete over hand mixed ditto by quite 18 per cent. Where it is mixed by hand it is well to increase the proportion of cement by $\frac{1}{2}$ cwt. to $6\frac{1}{2}$ cwts. It is important that it should be in a plastic or viscous condition. It should be used fresh in small quantities at a time, and well rammed and punned until the moisture is evenly distributed. The concrete should not be too liquid, because if so, its compressional resistance is weakened accompanied by cracks during the setting; and should it be *vice versâ* its proper setting will be proportionately affected. Another way is to gauge the aggregate, filling its interstices accordingly; then add a concrete mortar say 1 of cement to 2 of sand, with a margin of about 10 per cent. for faulty mixing

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* From a paper read before the Society of Architects, April 21, by Mr. A. R. Galbraith, Assoc.M.Inst.C.E.I.

One of the features of this system is the armoured brickwork (Briques armées). Good, hard, sound, specially made bricks vertically perforated with square holes are generally used in two sizes, $8\frac{5}{8}$ inches by $3\frac{1}{8}$ inches by $2\frac{3}{8}$ inches with four holes, and $8\frac{3}{4}$ inches by 3 inches by $4\frac{1}{2}$ inches with eight holes. The area of the former sized brick which was used in the erection of the Pavilion of the Republic of San Marino is $20\frac{1}{2}$ square inches, made up of $14\frac{7}{8}$ square inches for the solids and $5\frac{5}{8}$ ditto for the voids. Tiles of a similar character are made for light partition work, &c. The brick and tilework is invariably executed in the stretching or "chimney bond."

Steel rolled wire of circular section is employed for reinforcing the brickwork, and for forming the meshing for the slabs or trellis panels. Flat steel bars of the following dimensions are used for the top and bottom flanges of the ribs and beams, and for anchoring the steel wire under the bottom courses of the brickwork:—

1. Bars of the best weldable steel $1\frac{5}{8}$ inch by $\frac{1}{4}$ inch
2. ,, ,, ,, ,, $1\frac{5}{8}$ inch ,, $\frac{3}{8}$ inch
3. ,, ,, ,, ,, $1\frac{5}{8}$ inch ,, $\frac{7}{16}$ inch
4. ,, ,, ,, ,, $1\frac{5}{8}$ inch ,, $\frac{9}{16}$ inch
5. ,, ,, ,, ,, $1\frac{5}{8}$ inch ,, $\frac{5}{8}$ inch
6. ,, ,, ,, ,, $1\frac{5}{8}$ inch ,, $\frac{11}{16}$ inch

the sizes generally used being Nos. 1, 3, 4, and 5. This steel should be ductile with a coefficient of elasticity not in excess of 30. Siemens-Martin is to be given the preference over Bessemer on account of its purer and more uniformly good quality.

Where concrete work has been discontinued before the completion of the structure, the surface of the old work must be well serrated with a cutting tool, and cleansed from all foreign matter before resumption. Pure fresh cement grout must then be poured over the surface of the work before commencing, care being taken to well pun the old work to the new in order to form an efficient bond. All concrete and cement should be used up before work is suspended, and any remaining must not on any account be again used. Fresh concrete work should be freely watered for some days, and failing this should be maintained in a moist condition by a good blanket of wet sand, especially if submitted to the action of the sun and other thermal agencies. Large surfaces of concrete exposed to the vicissitudes of the atmosphere should have expansion joints to allow for expansion and contraction. No centres, moulds, props and struts, or other scaffolding should on any account be struck until the concrete has sufficiently set, and no load should be placed on a green floor. The moulds and shuttering are generally removed after a few days, but it is advisable to allow at least a month to elapse before the entire removal of the temporary supports, when the structure will be ready for the tests. The foregoing remarks apply to concrete work only; the scaffolding for the brickwork, besides being much lighter than that used for ordinary brickwork, can be struck as necessary as the works proceed.

The metallic ossature is composed of a reticulation, or, more correctly speaking, a basket work of steel wire, usually of No. 7 B.W.G. of varying mesh, corresponding to the different loads the finished structure will have to sustain, the general rule being the heavier the load the smaller the mesh. It was found, however, that the closeness of this meshing presented difficulties, as it was apt to prevent the concrete from completely filling the interstices; to obviate this it was deemed advisable to increase the diameter of the wiring at the points of heaviest loading, instead of reducing the size of the mesh as heretofore. The manufacture of this meshing can soon be acquired by a workman of ordinary intelligence, although now special machinery has been devised for its preparation, and the whole of the wiring in every part of a structure constructed on this system is so intimately connected up and interwoven with the object of an equable distribution of the various stresses, so as to form an homogeneous whole.

These are formed in caisson work of the inverted box type, divided up into cellular compartments, and, as a substitute for piling, have proved remarkably economical and effectual, especially in the case of fluid subsoils, such as various kinds of river alluvium. At Tunis, where the rebuilt portion of the modern town is contiguous to the harbour, and occupying the site of an ancient lagoon, the silt of which in places attains the depth of over 100 feet, it was found by experiment that ordinary foundations were only capable of bearing a load between 31 and 32 lbs. per square foot without irregular subsidence, whereas the Cottancin raft sustained a super load of 777 lbs. per square foot, with only 0·008 inch of uniform subsidence. This load was afterwards augmented to 17 per cent. beyond the official maximum, equalling 1,711 lbs. per square foot, the sinking even then only amounting to $1\frac{3}{16}$ inch, and was still symmetrical; and it was only on increasing this load by 100 per cent. beyond the official maximum that signs of unequal settlement were manifested. These foundations are very suitable for engine beds and other machinery where the non-transmission of vibration is a desideratum.

M. Cottancin utilises for floors and ceilings a system of beams and ribs called by him *épines contreforts* (spine reinforcement). The wires of these beams project sufficiently to be interwoven and connected to those of the horizontal network of the floors and walls, both above and below, so as to obtain the greatest solidarity and immobility. This arrangement can be compared to a kind of lattice, its upper and lower members being connected uninterruptedly by flat diagonals. These beams are, as a rule, 14 inches in depth, and 2 to 4 inches in breadth; they are also provided with lower flanges, which are intended to carry the light slabs of reinforced concrete comprising the ceiling. These beams and ribs are frequently made on the ground and hoisted bodily into place, some parallel to the walls and others diagonal, forming an agreeable and artistic arrangement for decorative purposes. Some of these beams, 14 inches by 4 inches in cross section, have been used to support floors of over 39 feet span. The ceiling slabs are moulded prior to erection, and shaped to fill the interspaces between the beams. They are generally strutted up against the underside of the floor by small props so soon as the concrete has properly set in the superincumbent flooring; sometimes as an alternative ordinary shuttering is substituted. The floor reinforcement is then prepared *in situ* or added previously formed as already mentioned and interwoven with or attached to the loops left in the ossature of the beams and walls for this purpose. Care should be taken when the ceiling slabs are used as centres for the flooring that their upper surfaces are suitably prepared by a layer of oiled paper or otherwise, to prevent their adhering to the underside of the floor. Floors are usually 2 inches thick, the network being arranged about 1 inch above the bottom of the slab at the sides, and woven prior to concreting. This network or trellis has also a distinct sag towards the centre of the span, which slightly increases the strength of the slab These floors are of ample strength when the spaces do not exceed 3 feet 6 inches, if wiring $\frac{1}{5}$th of an inch thick is used, and the total thickness of the mass is $1\frac{3}{4}$ inch. Some tests carried out by the French War Department and by committees of the "Ponts et Chaussées" have proved that great strength is obtained by this system. In one instance two slabs were tested, one reinforced and the other of concrete *in toto*. The dimensions of these slabs were 1 metre carré (about 3 feet $3\frac{3}{8}$ inches square), and about $1\frac{3}{4}$ inch thick. The reinforced slab supported a distributed load of $2\frac{3}{4}$ tons with nearly $\frac{1}{2}$ an inch deflection before collapsing gradually, while the plain one with only a distributed load of a little more than half a ton suddenly gave way.

The question of the construction of walls and partitions has been ingeniously solved by M. Cottancin. Concrete itself is not entirely suitable for vertical partitions, as the softness of the fresh material and the difference in density between the sand and cement hardly permit the forming of a thoroughly homogeneous mass. M. Cottancin therefore utilises hollow bricks and tiles as previously described in combination with the metallic reinforcement. The reinforcing wires are passed through the vertical perforations in the bricks, and fastened to the horizontal flat bars, along the top and bottom bed joints. For external walls the bricks are arranged on the double cellular system, and as soon as the reinforcement is in position the perforations are filled up with cement grout for the purpose of fixing and protecting the wiring. Walls of the façades of houses five and six storeys high have been erected on this system, with double walls of brick each about 3 inches thick.

Concrete arches are formed with a metallic armature resembling that of the ribs and beams, and when constructed in brickwork the reinforcing wires are carried through in a similar manner to and connected with that of the walls.

When the columns are constructed in concrete they are reinforced with a continuous metallic cincturing of steel wire about $\frac{1}{4}$ inch diameter applied helicoidally close to the outer circumference, and spaced $\frac{3}{4}$ to 1 inch centre to centre. Piers and pillars as well as columns are generally erected in brickwork, with the vertical armature previously depicted for walls. These vertical bars are introduced to increase the resistance of these members to lateral flexure, and they offer great resistance to oblique strains. It may be taken as a general rule that armoured concrete columns should not exceed 27 times their diameter in height without bracings.

Ordinary roofs are formed with a double slope of reinforced concrete and a similar ceiling, each with a connecting reinforcement, this constituting a series of lattice beams. Light rafters are then placed upon the supports carrying a roofing of zinc or other material. In Mansard roofs the entire complication of framework or truss construction is eliminated. Dormers and skylights can be constructed in such roofs without the slightest danger of any weakening of the completed structure. Arched roofs of small rise have the roof and ceiling slabs carried on curved and longitudinal intersecting ribs, two methods of such arrangement being shown. Little rise is given to these ribs—in one instance a roof of 59 feet span only having a rise of 16 inches, and another one of 46-feet span having the lesser rise of 14 inches. These arched beams or ribs are also frequently made of reinforced brickwork.

A great many domes and similar forms of roof construction have been erected on this system, notably one at the Château Orfrasière. This dome is 52 feet in diameter at 125 feet above the ground, and supported on 18-inch by 18-inch reinforced brick piers.

A number of chimney-stacks have been built according to this method—one at the works at Montreuil. It is 100 feet high, walls 3 inches thick, supported on caisson foundations. The advantages claimed for these shafts are that they are 40 to 50 per cent. cheaper than those in ordinary brickwork, are lighter and stronger, offering as they do a much greater resistance to wind pressure. No firebrick lining is absolutely necessary, M. Cottancin claiming that the reinforced cement filled brick will resist any temperature to which these stacks are likely to be submitted. As an instance of this a great number of brick and limekilns without any firebrick lining have been constructed by M. Cottancin, and have been in use for some considerable time, with perfectly satisfactory results. When the firebrick lining is desired it is carried up to the required height in the ordinary manner. Lightning-conductors are also dispensed with, the steel reinforcement sufficing if attached to a copper corona placed at the summit. The heavy and expensive concrete foundations are not required, being replaced by the reinforced brick caisson work.

Bridges, reservoirs, tanks, engine beds, boiler settings and other forms of engineering construction have been erected with considerable success on this system. A highway bridge at Hirson, in the north of France, was constructed with foundations formed of short cylinders of steel cored cement concrete driven by hand into the mud at the side of the stream. These cylinders were filled with gravel, and formed the supports for the steel cored cement panels which composed the platform, on which were placed the steel cored beams, 14 inches deep and 2½ inches wide, carrying the 2-inch cored concrete panels forming the roadway. This reinforcement is carried throughout the whole structure, which was tested with rolling loads up to 16 tons without showing any permanent set. A reinforced brick rain-water tank was built at Newark-on-Trent for Messrs. Simpson & Co. The walls were 4½ inches thick on a brick caissoned foundation. Its cost was 5*d.* per foot cube, against an estimated cost of 2*s.* 4*d.* in ordinary brickwork. The caissoned brick foundation bed and the boiler settings for the new heavy boilers at the pumping station on Duck Island, St. James's Park, London, S.W., were also executed on this system for His Majesty's Office of Works. The cost of this work was 1*s.* 2*d.* per foot cube against that of 2*s.* 2*d.* for deep concrete foundations, which would otherwise have been absolutely necessary.

The *rationale* of the extraordinary results that have been obtained from the works executed on this system is based on the theory of the spinal vertebra. Take a hollow column of ivory only supported at its upper extremities by three guys attached to its lower ditto; it would be fractured by the slightest strain applied at the centre, but if constructed of a series of vertebræ, each of which is individually capable of resisting compression, and is provided with three apophyses or projections by which the muscles or guys are attached to every vertebra throughout the column, it is at once capable of resisting considerable lateral strains, and is invariably in equilibrium in every position. With this comparison each brick in the structure can be likened to a vertebra; the metallic ties of the mesh woven through their perforations form on the one hand the muscles, and on the other the projections to which they are attached, with the resultant that a constant condition of equilibrium is maintained. With a construction of this nature, the height and span has no more relative importance than that of the height and size of a man, provided the safe limits of the strengths of the constituent materials are not exceeded, and a big man will always be stronger than a small one, assuming that the proportions of the muscles, &c., are *pro rata.* Comparatively enormous weights can be sustained by the spinal column, although it is composed of individually small elements in almost any position away from the perpendicular, all the strains being converted into muscular tension plus compression normally to the contact surfaces of the vertebræ. From this it will not be surprising to know that out of the great number of structures of the most varied kind which this method of construction has been applied no failure has ever taken place, which is more than can be said of some of the other systems having an extensive record of executed works in different parts of the world.

DISCOVERY OF THE MOST ANCIENT TEMPLE AT THEBES.

IN a communication to the *Times* M. Edouard Naville and Mr. H. R. Hall write:—

The excavations carried on by the Egypt Exploration Fund from 1893 to 1896, following those of Mariette, in the temple of Deir-el-Bahari at Thebes are well known to every winter visitor to Egypt. After four years of excavation, the beautiful temple which was erected by the Queen Hatshepsu or Hatasu of the eighteenth dynasty (B.C. 1500) was entirely cleared of the chaotic mounds of rubbish and Coptic walls which almost hid it from view. But after the conclusion of the excavations an unexplored space still remained to the south of the temple, and between it and the southern horn of the semicircle of cliffs which rise at the back of Deir-el-Bahari. This space was also covered by confused mounds of rubbish. During the past winter season of 1903-4 the systematic exploration of this untouched tract has been begun by us, working on behalf of the Egyptian Exploration Fund, and has already met with a success which promises well for further work on the same site. The net result of the work of excavation has been the discovery of another temple, side by side with the great building of Hatshepsu; this is the most ancient shrine yet discovered at Thebes, being the funerary temple or mortuary chapel of the King Mentuhetep Neb-kheru-rā, of the eleventh dynasty (B.C. 2500). Fragments of architraves, &c., bearing the name of this king had previously been found at Deir-el-Bahari by MM. Mariette, Maspero and Brugsch Bey, so that it had always been known that an eleventh dynasty building had existed hereabouts. Also some fragments of octagonal sandstone columns, lying on the rubbish, had been conjectured to belong to this building, and the present excavations have shown this conjecture to be correct. But the precise position and nature of the building itself were unknown until now.

It is in an unexpectedly good state of preservation, and is, as far as can as yet be seen, the best preserved of the few Egyptian temples which can show any buildings *in situ* which are older than the time of the eighteenth dynasty. The remarkable pyramid-temple at Abûsîr, near Cairo, excavated by Dr. Borchardt for the German Oriental Society, is older, dating from the fifth dynasty, but is not so well preserved. Further, the newly-found temple has already yielded results of great importance to our knowledge of Egyptian art and architecture. A large number of the sculptured slabs which once adorned the walls of its pillared hall, some in good preservation, others fragmentary, have been found among the ruins. These originally depicted the coronation of the king in whose honour it was built, his reception of the magnates and chief warriors of his court and of tribute bearers, his servants driving the cattle belonging to the domain of his temple and cutting down reeds to build boats with, the procession of funeral boats on the Nile—all scenes appropriate to the ante-chamber of a royal tomb at that period. These reliefs vary in artistic quality; some are of the rough style which has usually been supposed typical of the work of the eleventh dynasty, but others are of very good work, equal to the best twelfth dynasty, delicate in touch and at the same time bold and free in style. It cannot be doubted that these excavations will teach us very much that was not known before with regard to the development of art under the eleventh dynasty. We may also learn new historical facts with regard to this dynasty, of which very little is known; for instance, the true order of the kings, which is as yet uncertain, may be made clearer to us.

Further, the aspect of the new temple forces us to modify various speculations which have been made with regard to the origin of the peculiar style in which the great temple of Deir-el-Bahari, that of Hatshepsu, was built. One of the greatest charms of this temple is the unconventionality of its design, with its ramps or ascents leading up from court to court, its colonnades on either side of the ramps, and its simple "proto-Doric" columns, like those of the tombs at Beni Hasan. Hitherto this design has been unparalleled in Egypt, and various theories have been propounded to account for it. It has been supposed that the great queen wished to model her temple on the terraced hills of Somaliland (Punt), from which her famous naval expedition brought back the strange animals and plants, the frankincense and myrrh, which are depicted on the walls of her temple. The real explanation has only come to light with the discovery of the temple of Mentuhetep. This was built on an artificially squared rock-platform, approached by an inclined ramp, flanked by colonnades (only one has as yet been excavated). The pillars of the colonnade are of the same square form as those of Hatshepsu's lower colonnades, and its sculptured facing-wall has the same batter or slope as have Hatshepsu's. Further, the pillars of the temple hall on the platform are of the "proto-Doric" type of those of Hatshepsu's upper colonnades, the Shrine of Anubis, &c., the only difference being that they are eight-sided, while Hatshepsu's are sixteen-sided. We are now reminded that the "proto-Doric" column is unknown after the Middle Empire, except in Hatshepsu's Temple, whereas its most typical form is found in the thirteenth dynasty tombs at Beni Hasan, and it occurs in other early tombs; further, we find a modification of it used as a decorative motive in the "proto-Doric" pillar form commonly given to the central supports of the head-rests which are found in tombs of the fifth and sixth dynasties. It is, in fact, typically early. The conclusion is obvious—Hatshepsu's architects simply imitated and enlarged upon the design of the older temple of Mentuhetep, which had already existed at Deir-el-Bahari for a thousand years before they began their work; for some reason they chose, instead of building in the style of their time, to imitate an eleventh dynasty temple; the great temple of Deir-el-Bahari was then simply a magnificent piece of archaism.

Since Hatshepsu copied her temple from one of the eleventh dynasty, a further interesting possibility presents itself. Hatshepsu's expedition to Punt is the only one known to us at the comparatively late period of the New Empire; all other known relations between Egypt and Punt are confined to the period between the fifth and eleventh dynasties. Mentuhetep Sankhkara, a follower of Neb-kheru-rā on the throne, sent an expedition to Punt. It may well be that Hatshepsu's expedition was merely an echo of those of Sankhkara and his predecessors; she copied the eleventh dynasty in her temple building, and carried her archaistic tendencies so far as to imitate them also in sending an expedition to Punt. These results are important. The new discovery explains why Hatshepsu's architects, instead of building in the exact centre of the circus of Deir-el-Bahari, crammed the new temple up against the northern slope of the cliffs, leaving the great space to the south which has seemed unoccupied until this season's work. We now see that they were compelled to do this by the presence, which we moderns had hardly suspected, of the older temple at Deir-el-Bahari. This temple, the newly discovered one, certainly existed side by side with the new temple of Hatshepsu, throughout the eighteenth dynasty, and did not fall into ruin until the Ramesside period or later. One of the pillars of the hypostyle hall bears the royal label of a Rameses. The relief-slabs of the hall and the pillars of the colonnade are covered with Ramesside graffiti, both written and incised, and the colonnade seems indeed to have been used as a sort of school or practice-ground for young scribes and decorators. This would hardly have been tolerated if the building had still been in good repair, so that we can date its decadence with some certainty to the Ramesside period.

As it was, in order to obtain room for their temple at all, Hatshepsu's architects were compelled to plant its upper platform, and the shrine of the goddess Hathor adjoining, right on the top of part of the temenos-wall of the older temple This comes out from under the eighteenth dynasty building and passes along masking the face of the cliff, till it joins, at a remarkably acute angle, the facing-wall of the platform of the eleventh dynasty temple. This platform, which was originally about 15 feet to 18 feet high, is separated from the Hathor shrine of Hatshepsu's temple by an open court some 60 feet broad. Its facing-wall, of remarkably fine stonework, reminding one of Knossos and of the nearly contemporary walls of Dashur in its general effect, and far superior to anything of the kind in Hatshepsu's temple, is about 120 feet long, running nearly east and west, roughly parallel with the later temple. The platform is rectangular; its eastern side is cut off vertically like the northern side, and the facing-wall follows its right-angled turn round into the colonnade. The stone pavement of the colonnade is perfectly preserved; it is 68 feet long and 14 feet wide. Of its columns, which originally numbered 24, disposed in two parallel rows of 12 each, the row nearest the platform is complete. The columns, which are a little over 2 feet square, were originally 11 feet or 12 feet high. They are broken off short at a height of from 4 feet to 7 feet above the ground. The ramp at the southern end of the colonnade has not yet been excavated. This ramp led up to a great entrance gate on the platform, of which the original finely polished red granite threshold, measuring 9 feet by 5 feet, was discovered in position, with its door-socket, &c. This gate leads directly into the hypostyle hall of octagonal "proto-Doric" columns which has already been mentioned. These pillars are small and thin; they are about 2 feet 6 inches in diameter, and rest upon circular bases 4 feet across. The bases of all are in position, but of the pillars themselves only a few remain; the highest (now covered up again for the summer) is about 9 feet high. Each bears the royal titles of King Mentuhetep, as do also the square columns of the colonnade below, and, like these also, they are made, not of the white limestone which was used for the facing-walls and relief blocks of the temple and for the similar columns of Hatshepsu's temple, but of a grey sandstone which seems to have been specially affected by Mentuhetep Neb-kheru-rā: we find it also in work of his at Abydos. There seem to have been eight rows of columns on either side of the central axis of the hall; the intercolumniation is very narrow, measuring only 7 feet from centre to centre. The half-width of the platform from the northern corner to the central axis is about 80 feet. The hall was surrounded by a thick wall of limestone, which was decorated with the reliefs already mentioned. On the facing-wall of the colonnade below remain the only reliefs still in their original position. They represent a procession of boats. Only the north-eastern corner of the platform has as yet been uncovered.

EDINBURGH ARCHITECTURAL ASSOCIATION.

THE annual general meeting of the Edinburgh Architectural Association was held on the 20th inst. in the rooms, 117 George Street, Edinburgh, Mr. A Hunter Crawford, F.R.I.B.A., presiding. It was reported that there had been no proper meeting of the Council during the past year owing to the difficulty of securing a quorum. The matter had been remitted with the view of endeavouring to make some more satisfactory arrangement. Mr. Cameron read the report of the library committee, which stated that the books had now been arranged and that the catalogue was in the hands of the printer. The sketch-book committee reported that they were now nearly free of debt, and they considered the time had come when another volume should be prepared. It was remitted to the sketch-book committee to consider the matter and report to the Association. It was agreed to invite the convener of the publication committee to call a meeting of his committee with the view of considering the propriety of resuming publication of the Association's "Transactions," which had been suspended for financial reasons. Prizes were then presented to the successful competitors in the associates' section, the chairman remarking that the designs were of such an excellent character that they deserved wider publicity than they had received. Among others the following office-bearers were appointed:—President, Mr. Harold C. Tarbolton; past president, Mr. A. Hunter Crawford; vice-presidents, Mr. R. S. Lorimer and Mr. Alfred Grieg (junior section); honorary secretaries, Mr. William M. Page and Mr. Colin B. Cownie; and honorary treasurer, Mr. W. Glassford Walker.

Mr. Hunter Crawford then made some remarks on the statutory qualification of architects. He said that the present position of architects was unsatisfactory, not so much for the men of outstanding abilities, but for what he would call the average architect, who occupied an inferior position to that which would be held by men of the same abilities in the legal or medical profession. For sixteen years efforts had been made to raise the status of the profession in the direction of statutory qualification. Hitherto, with the exception of the Institute examinations, the Royal Institute of British Architects had taken no part in the movement, but outside bodies had taken it up. Bills had been introduced into Parliament, but so long as the Institute did not take it up no Bill was likely to pass. The Institute had now appointed a committee, consisting of the Council and the presidents of the leading Societies to consider the matter and to report to a general meeting. It seemed to him totally wrong to make the subject a party question, as some were endeavouring to do. What was wanted was an approach to the question by representative architects, who would preserve an open mind. Three classes of architects were in favour of statutory qualification—those who believed that the architects and the public would benefit by such a scheme; those who urged that by it the architect's business as a business would be improved, and those who believed that the proposal should be accompanied by a scheme of examination and education. Against the scheme were those architects who went under the unfortunate title of "art architects," who did not see how they could test a student in the art of architecture apart from such questions as construction, sanitation, style and proportion. It had been suggested that the examiners should give an honours degree for what they considered to be the best design, and thus meet both views of the matter. Mr. Crawford said that he was not sufficiently sure of the advantage of making any effort to alter the present position, but he was more favourably inclined towards statutory examination than he was a year ago. That was due to the fact that he thought the education of the student would be more perfect, and that therefore he would be more qualified to practice. Discussion followed.

Members of the Edinburgh Architectural Association, to the number of over thirty, paid a visit to Glasgow on Saturday. Leaving Princes Street station at 1.5 P.M., they arrived at the Central station, Glasgow, shortly after two o'clock, and were there joined by about forty members of the Glasgow Architectural Association. Conveyances were in waiting, and the joint party drove through the principal street of the city with a view to inspecting the leading architectural features. Among the places visited were the Trades' Hall, Glassford Street; the Faculty Hall, St. George's Place; the University, Gilmorehill; and the Accountants' Hall, St. Vincent Street. The interiors of several west-end mansions were also inspected. In the evening a company of between seventy and eighty sat down to dinner in the Lansdowne Restaurant. The chair was taken by Mr. W. J. Blain, president of the Glasgow Association, who had drawn up the programme of the visit. The toast of the "Edinburgh Association" was proposed from the chair. Mr. A. Hunter Crawford, F.R.I.B.A., responded, and in turn proposed the toast of the "Glasgow Association." The Edinburgh members left by the 9.50 P.M. train from the Central station.

GLASGOW ARCHÆOLOGICAL SOCIETY.

THE monthly meeting of the Glasgow Archæological Society was held last week. Mr. George Neilson, LL.D., presided. Mr. James Paton exhibited a series of pen-and-ink drawings of Glasgow and neighbourhood, circa 1820, by Daniel Alexander; drawings of interior details of Glasgow Cathedral, by A. D. Robertson; a plan of the Burgh of Anderston, drawn in 1839-40; and a silver spoon, Glasgow mark, about 1680. Mr. John Edwards afterwards read a paper on "The Greyfriars in Glasgow." He pointed out that Pope Pius II., who had visited Scotland in his earlier years, determined in 1463 to establish the Observant Franciscans with full Papal sanction in Scotland. In Scotland they appear to have found a welcome from the people generally. They were settled in Glasgow between 1473 and 1479, on a site gifted by John Laing, bishop, and Thomas Forsyth, rector. This ground was immediately to the west of Greyfriars Wynd, now known as Shuttle Street. True to their principles of humility and poverty, the Minorites were content with a site behind the gardens and yards of the burgesses. In 1511 they acquired a small additional strip of ground on the west, part of the lands of Ramshorn, for the enlargement of their friary and garden. These two pieces of ground formed their only landed property in Glasgow, so far as is known. Hence they had no chartulary, as the monks had, to record transmissions. King James III. granted them a charter under the Great Seal in 1497 confirming them in their site. We know only a very few particulars regarding the friary. The garden stretched to the west and it was surrounded by walls. In 1511 Friar John Johnson was Warden of the Glasgow house, and Brother James Pettigrew, who is commemorated in laudatory terms in the Obituary of Aberdeen, was Provincial of the Order in Scotland. Coming to the period of the Reformation, the protocols of the town clerks disclose that Friar James Baxter was one of the Franciscans ejected from the convent in 1559. The question whether the mendicant Orders were worse than the secular and regular clergy was then considered, and the opinion was expressed that the evidence available did not warrant the view that the friars in character and conduct were more blameworthy than their neighbours. Zeal and energy, and in many cases cheerful devotion to duty, were their distinguishing traits. The later history of the site of the friary was sketched, and the paper concluded with some notices of the poetical effusions of the satirists of the period regarding the Greyfriars, and it was shown that these were not by any means uniformly hostile.

Correspondence

Proposed Free Library at Stamford.

SIR,—I caused an advertisement to appear in a recent issue of your Paper in relation to an architectural competition in connection with the above, and announcing, in effect, that a plan of the site and conditions of the competition would be forwarded to intending competitors upon receipt of one guinea. Since, however, such announcement appeared some misunderstanding or question has arisen in relation to the conditions of Mr. Carnegie's offer, as to whether a caretaker's residence is to be included in the design, and I have written some time since to Mr. Carnegie, who, I believe, is in America, asking for definite instructions, and have for several days been expecting to receive his, or his secretary's, reply thereto, but as yet have not done so.

I have had a very large number of applications for particulars of the competition, but pending the receipt of a definite reply from Mr. Carnegie, I have withheld the plans and conditions of the competition, and merely acknowledged the letters and cheques of the respective applicants, and stated, as before mentioned, that some misunderstanding had arisen, and that upon hearing from Mr. Carnegie I would communicate with them again and forward plan and conditions, revised or not, as the case may be, and that, if necessary, the time for sending in designs would be extended.

Will you please be so kind as to make, in the form of an editorial note or otherwise, an announcement in the next issue of your Paper as to the present position of matters in connection with the Stamford proposed free library, as disclosed by this letter, as pending the receipt of Mr. Carnegie's reply I shall be troubled with innumerable further inquiries from intending competitors.

Thanking you in anticipation, I am, yours truly,

CHARLES ATTER, Town Clerk.

Town Clerk's Office, Stamford: April 26, 1904.

THE WESLEYAN CHURCH HOUSE.

THE trustees propose to invite architects to submit preliminary sketches or designs for the buildings to be erected on the corner site fronting Prince's Street and Tothill Street. The buildings will cover an area of about 35,000 square feet, which is five times the area covered by the Wesleyan Centenary Hall in Bishopsgate Street. The conditions under which architects will be invited to send in preliminary sketches, with a view to a subsequent limited competition among selected architects, will be settled by the trustees in consultation with Mr. Aston Webb, their architectural adviser, whose services have been retained for the purpose. The Wesleyan Conference has instructed that the buildings shall be of a monumental character and worthy of the important position they will occupy. Some of the decorative architecture will be left to posterity to complete. The amount proposed to be expended on the buildings, irrespective of land, is 120,000*l*., and in view of the special requirements of the Wesleyan Church no plans of Gothic design will be considered.

GENERAL.

A Discussion on Mr. Blashill's paper on "London Streets and Street Traffic" will take place at the Surveyors' Institution on Monday, May 16.

The Exhibition at St. Louis is to be opened to-morrow. The outlay is calculated at the enormous sum of 10,000,000*l*. About 300 buildings were erected, and the agricultural building is said to cover 20 acres.

Mr. Albert Toft has completed the model of the statue of the late Queen Victoria which is to be set up in Nottingham. The principal figure will be partly reproduced in Carrara marble in Sicily, and will be completed by the sculptor in London.

The Corporation of Greenock have placed the site of the house in which James Watt was born at the disposal of the committee for erecting a memorial of the great improver of the steam-engine. The character of the memorial will depend on the amount of the subscriptions.

The Society of Antiquaries on St. George's Day elected the following council for the ensuing year:—President, Lord Avebury; treasurer, Mr. Philip Norman; director, Mr. F. G. Hilton Price; secretary, Mr. C. H. Read; other members of Council, Mr. W. Paley Baildon, Sir C. Purdon Clarke, Mr. O. M. Dalton, Mr. Cyril Davenport, Rev. E. S. Dewick, Mr. Leland Duncan, Sir John Evans, Mr. M. S. Giuseppi, Mr. W. Gowland, Mr. F. Haverfield, Mr. R. R. Holmes, Sir Henry H. Howorth, Mr. J. Seymour Lucas, Mr. J. T. Micklethwaite, Mr. William Page, Sir Edward M. Thompson, and Mr. J. G. Waller.

The Advertisement of the Society of Architects in last week's *Architect* contained the words, "Particulars of membership on application," which were inadvertently inserted, and do not relate to the Society's arrangements.

Mr. A. Williams, R.H.A., has sent to the St. Louis Exhibition a collection of forty-eight of his water-colour drawings of Irish scenery. They are placed in the Irish pavilion.

M. Roesler-Franz will lend about eighty water-colour drawings of Mediæval Rome to the Italian Exhibition.

Mr. J. Ely has prepared plans for the Southern Hospital which is to be erected in Oxford Road, Manchester.

An Exhibition of architectural drawings and photographs has been held in the Arts Club, Leeds. There were examples by Messrs. Halsey Ricardo, Bailie Scott, Ernest Newton, Henry Wilson, E. J. May, Basil Champneys and C. F. A. Voysey, and the following local architects:—Messrs. Penty & Sons, Rowntree, Brierley, Bedford & Kitson, W. H. Thorpe, Perkin & Bulmer, and A. Gibson, Harrogate.

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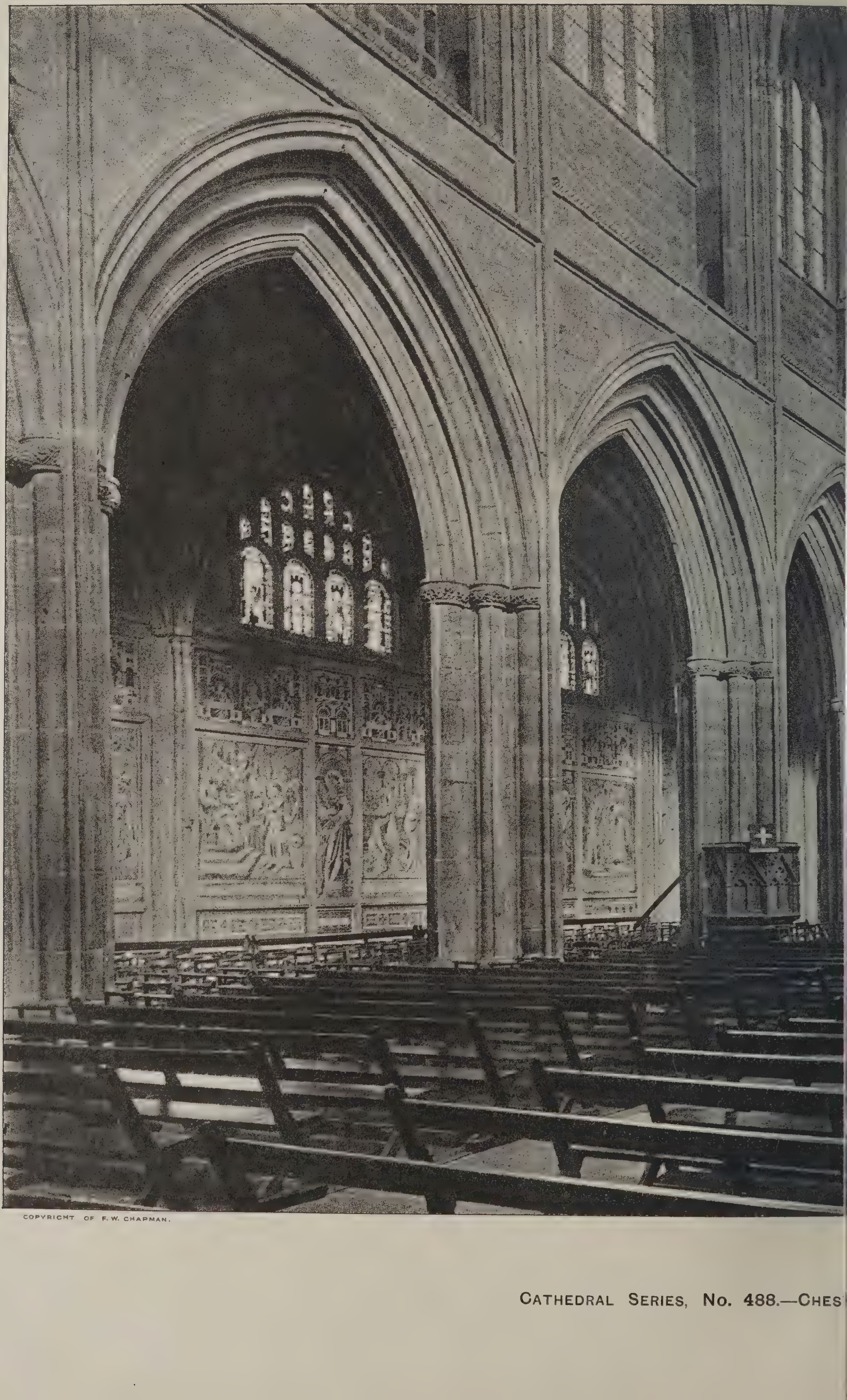

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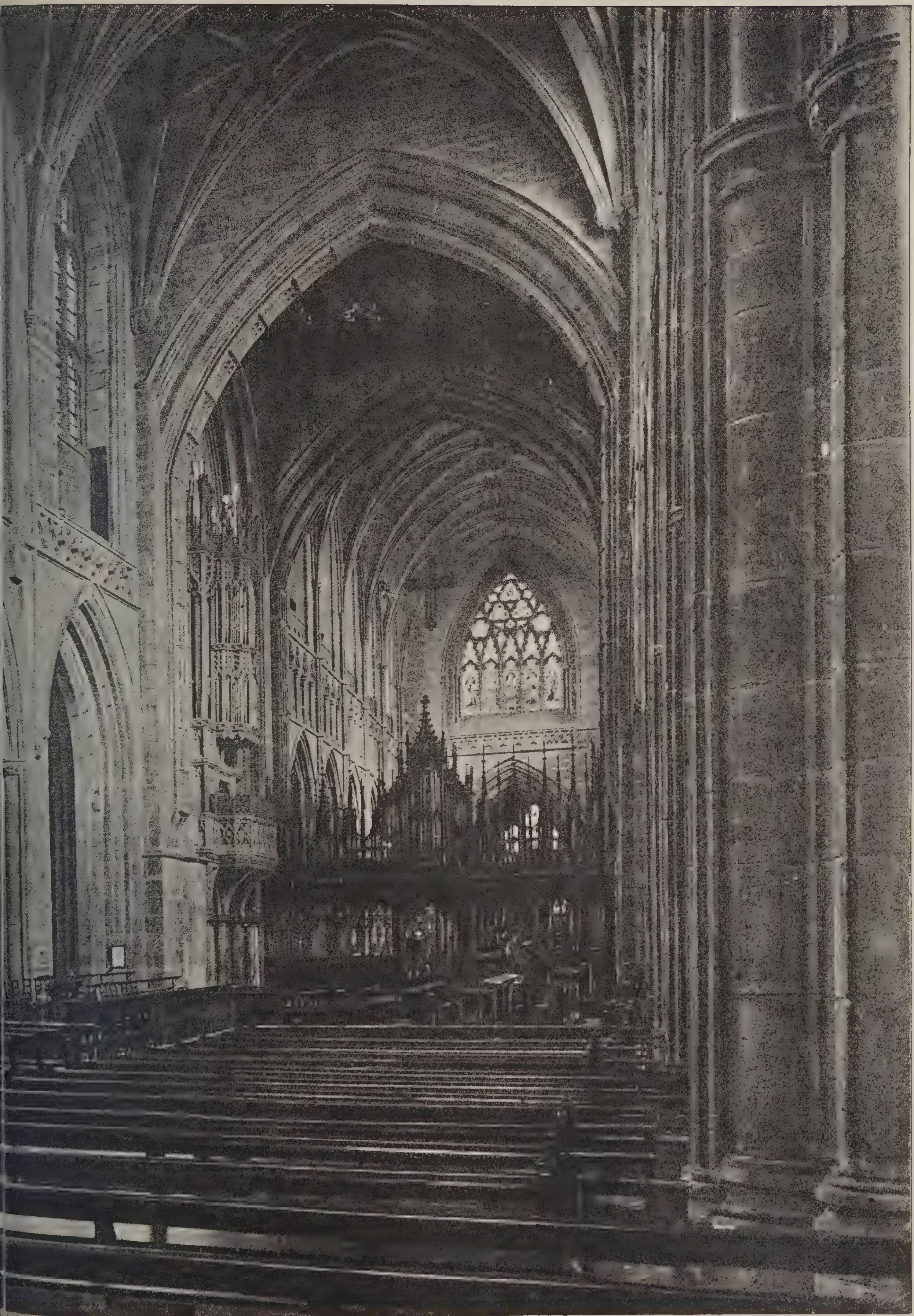
CATHEDRAL SERIES, No. 488.—CHES



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The Nave, looking North-East.

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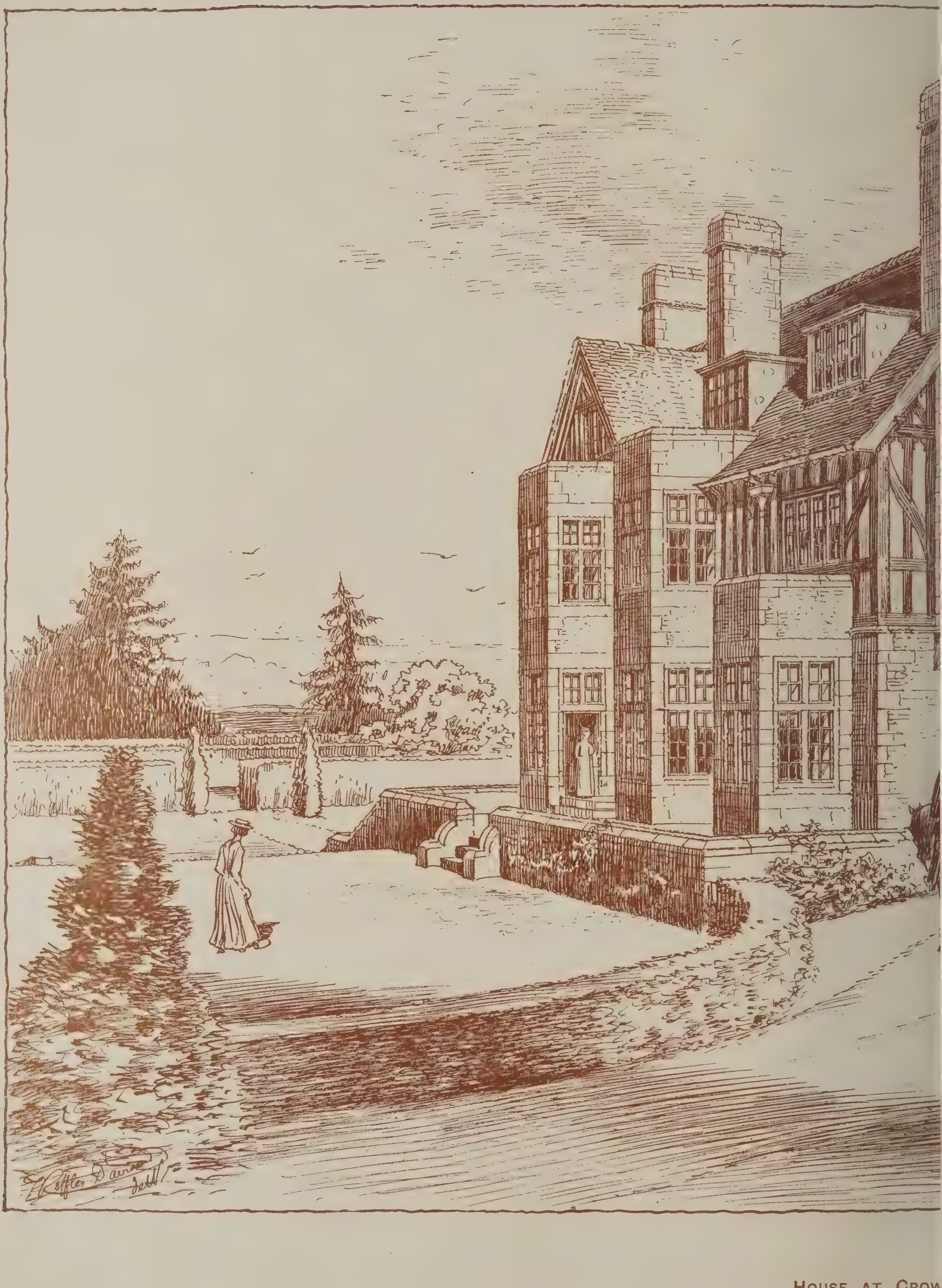
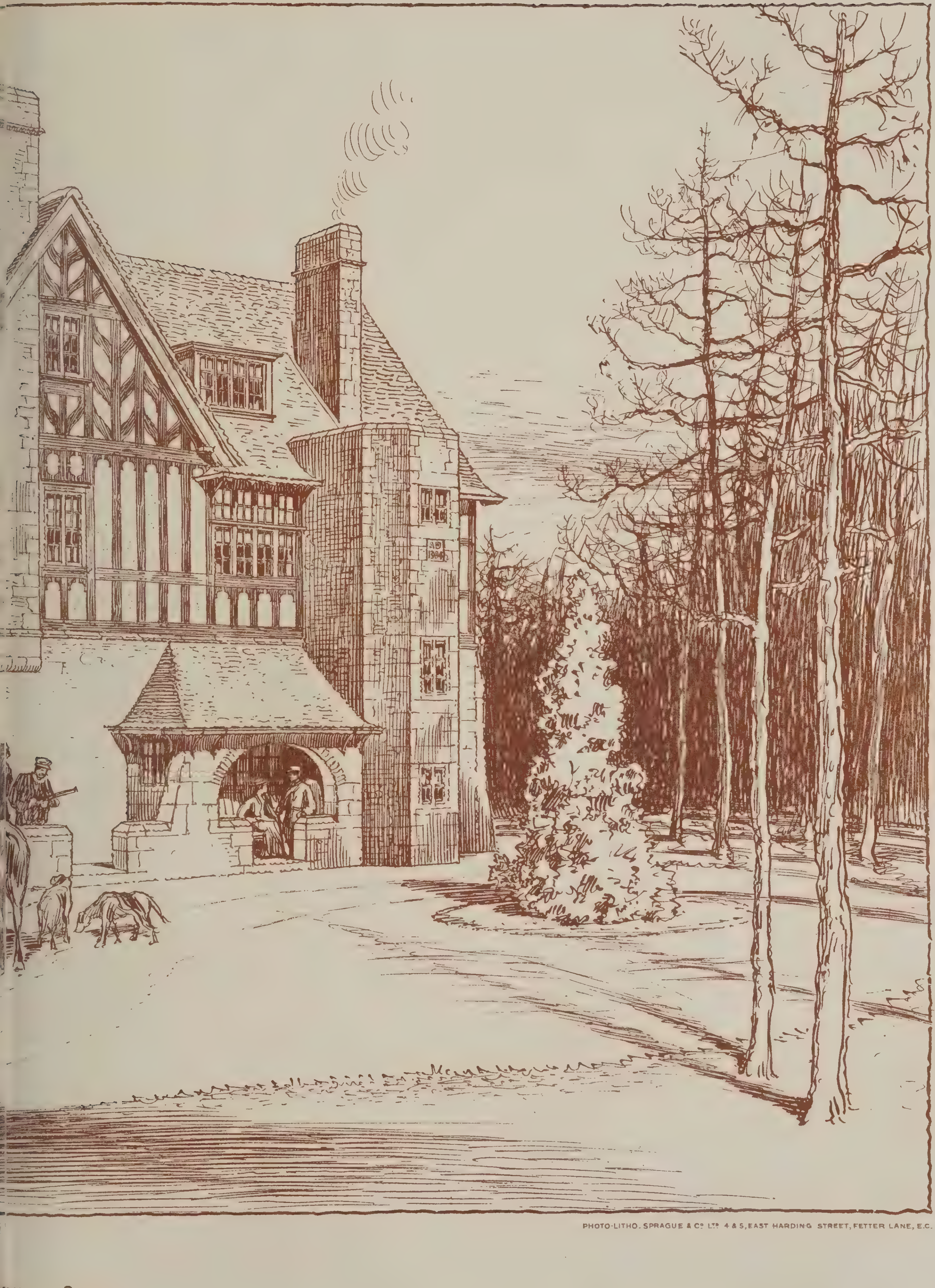


HOUSE AT CROW

Messrs. ERNEST RUN



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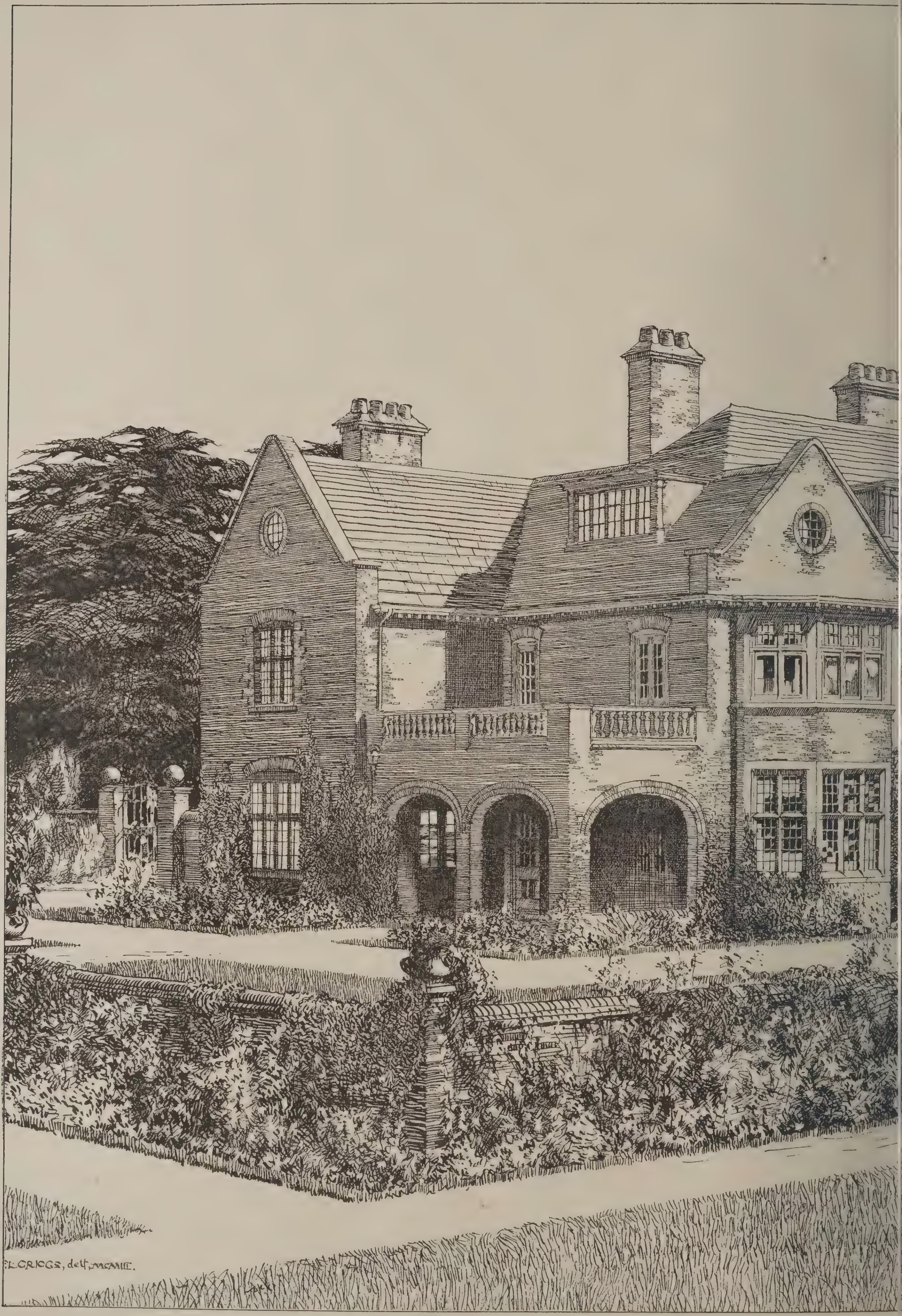
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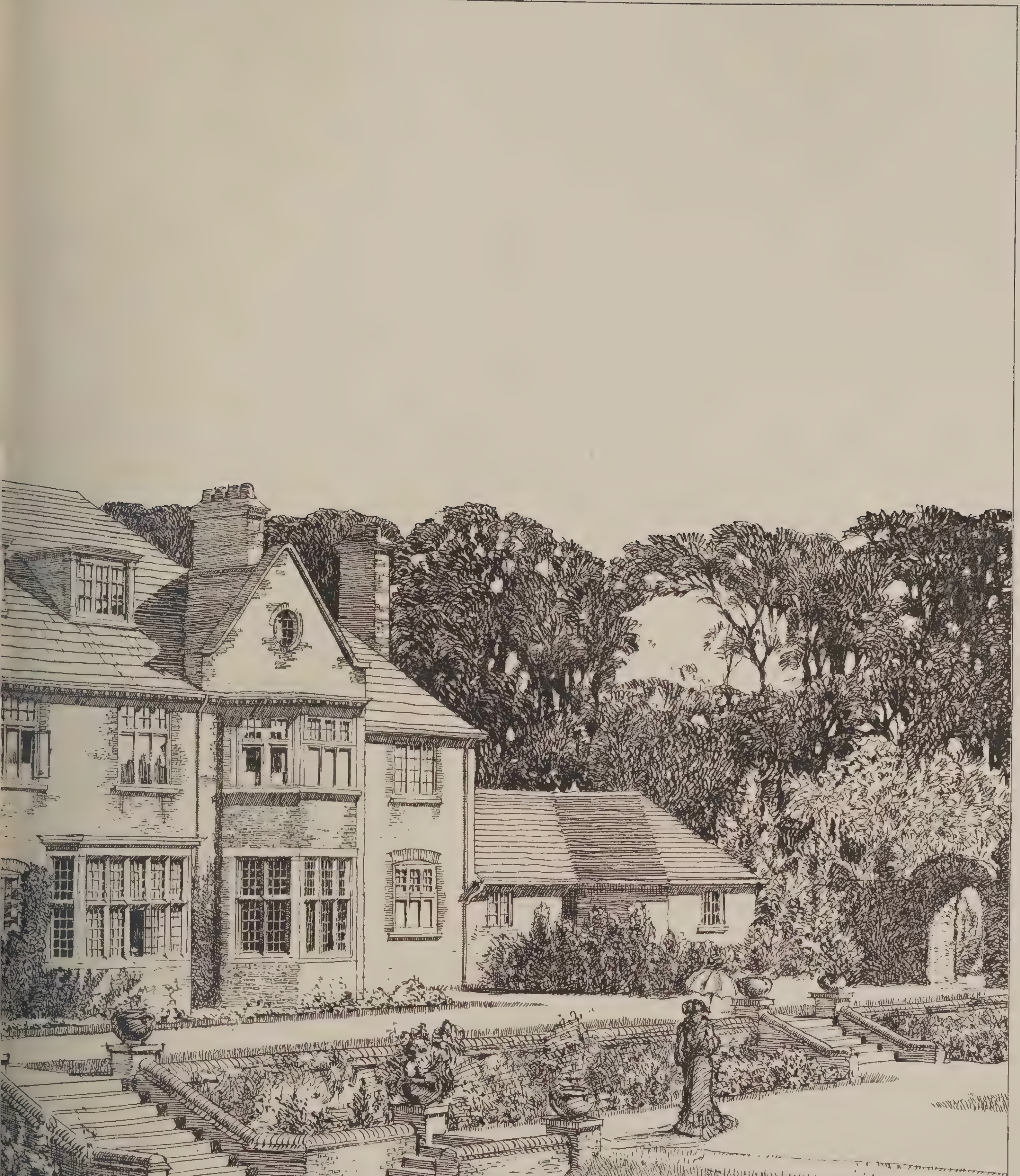

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N: GARDEN FRONT.

.I.B.A., Architect.

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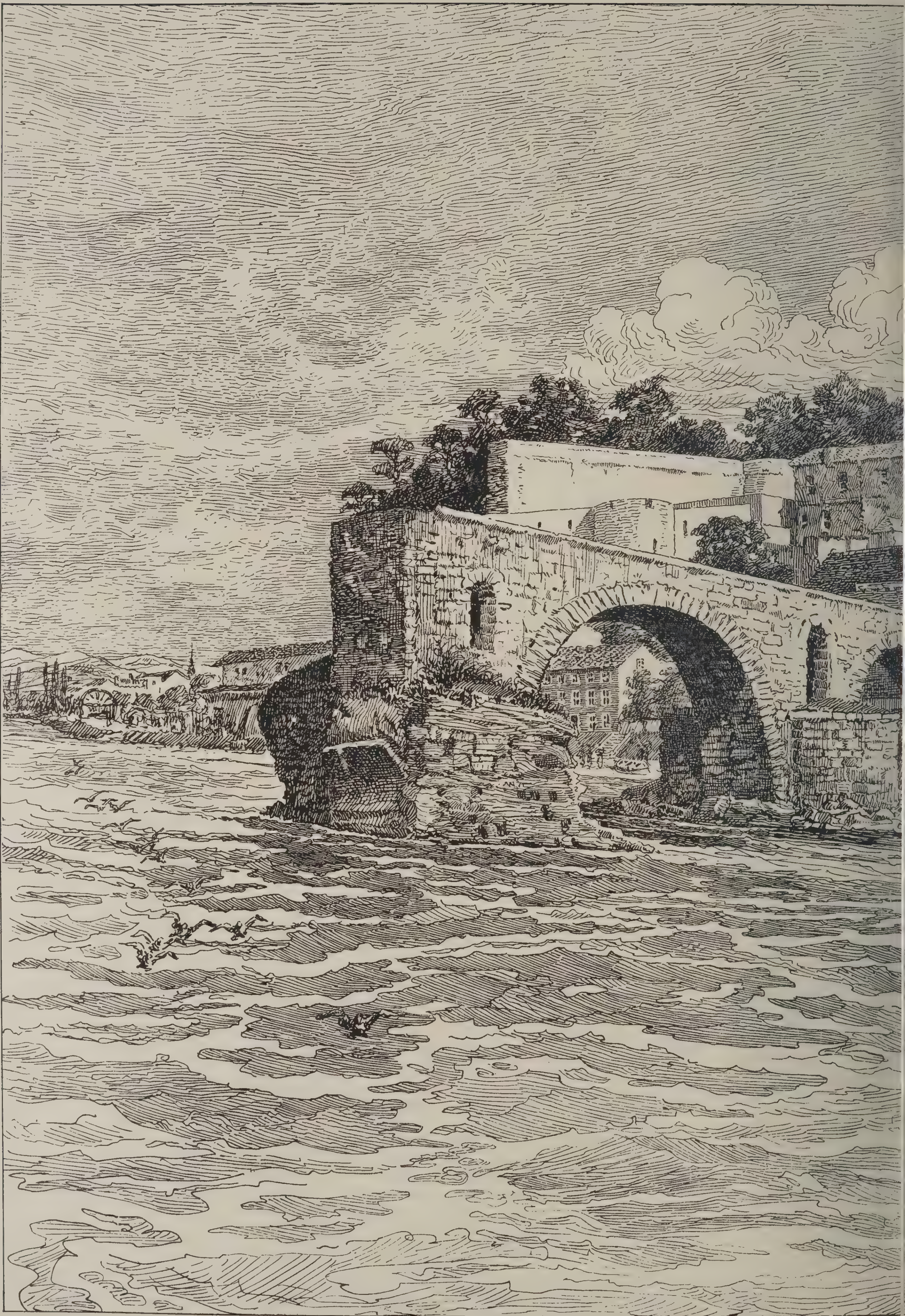
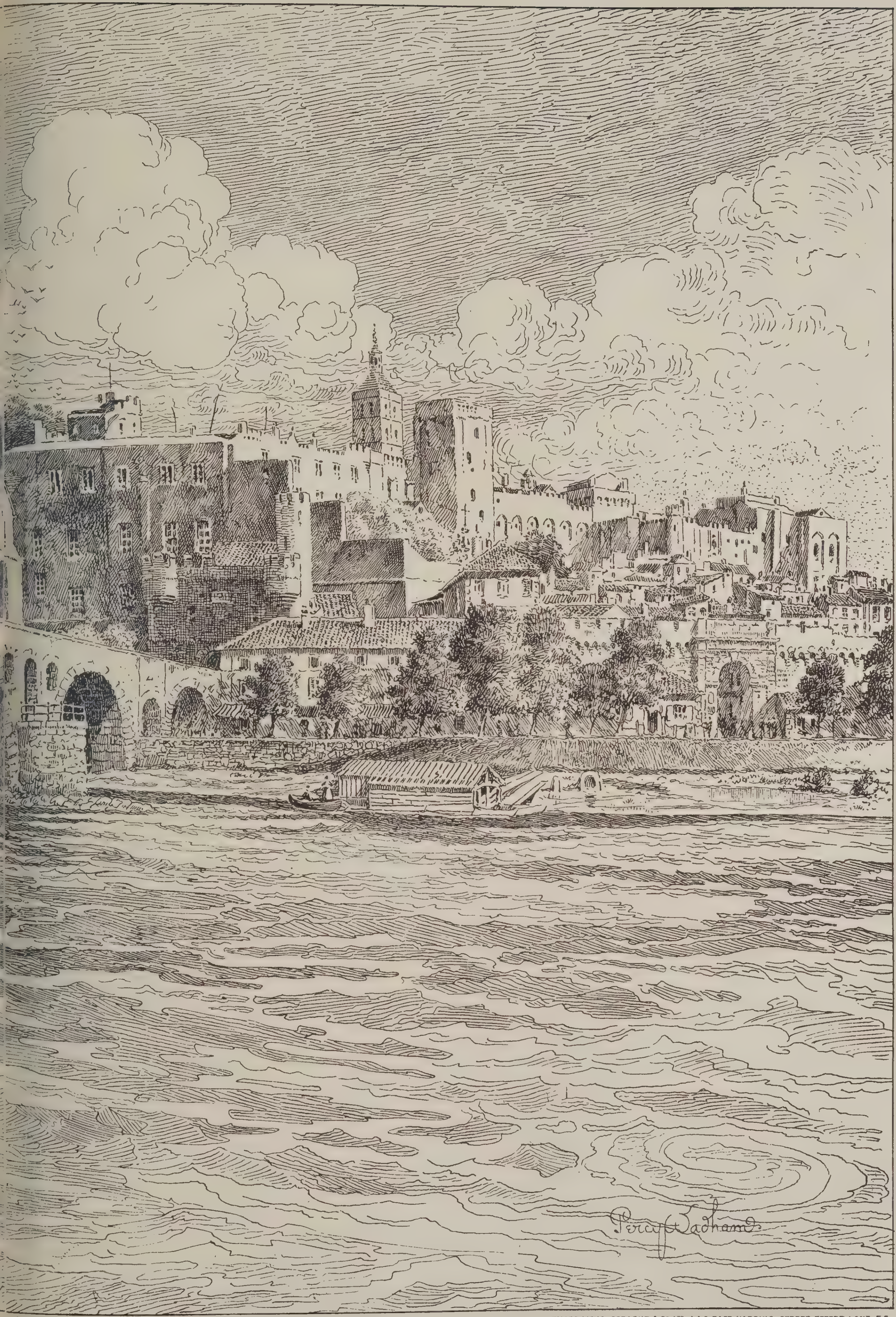


THE OLD BROKEN

From a Drawin

T 29th 1904.



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RIGE AT AVIGNON.

ECY WADHAM.

The Architect.

THE WEEK.

HE annual general meeting of the Royal Institute of ritish Architects was held on Monday, May 2; Mr. JOHN LATER, vice-president, was chairman. Referring to the esolution passed on January 4 last, viz. "That a com- ittee, consisting of the Council of the Institute and repre- entatives of the allied societies, be appointed to consider he principle of registration and to report thereon to a special eneral meeting," the chairman stated that the committee ad been appointed, and had held one meeting—viz. on arch 28—at which the following members were present:—r. ASTON WEBB, R.A, Messrs. BELCHER, SLATER, RAHAM, C. E. BATEMAN, A. W. S. CROSS, F. T. BAGGAL- AY, E. T. HALL, CHAS. HEATHCOTE, ARNOLD MITCHELL, ERESFORD PITE, G. H. FELLOWES PRYNNE, W. H. SETH- MITH, JOHN W. SIMPSON, LEONARD STOKES, R. S. ALFOUR, H. V. LANCHESTER, WALTER MILLARD, Mr. . T. HARE; and the following representatives of allied ocieties:—Mr. ARTHUR CLYNE, Mr. ARTHUR S. PARKER, essrs. J. T. CACKETT and J. WALTON TAYLOR, Mr. ERBERT DAVIS, Mr. A. HUNTER CRAWFORD, Mr. E. M. IBBS, Mr. HOWARD H. THOMSON, Messrs. G. C. ASHLIN, .H.A., and W J. GILLILAND, Mr. H. DARE BRYAN, Mr. . W. BREWILL, Mr. ARTHUR HARRISON, Mr. J. W. EAUMONT, Mr. H. K. BROMHEAD. The matter had been ebated at considerable length at the first meeting, and a nall sub-committee had been appointed to go into the details f the question and get together the necessary facts, so as to nable the matter to be put before the general committee. A rther meeting had been summoned for May 10, and the hole matter was being thoroughly gone into with a view to porting to the general body as to the method of carrying ut the proposed registration if it was possible to do so.

THE man who once said, "Thank Heaven! we have a ouse of Lords," if he were still alive would claim the ecision in COLLS *v.* Home and Colonial Stores as suf- cient to justify his exclamation. The unanimous judg- ent of the Lord Chancellor and Lords MACNAGHTEN, AVEY and ROBERTSON is almost enough to render further itation about the amendment of the law relating to light d air superfluous. What is more important is that an petus will be given to building the force of which cannot sily be measured. The Lord Chancellor's declaration at both light and air could not be considered as the clusive property of anybody would at one time be taken a revolutionary doctrine. But it is simply the result of a oader way of regarding common rights. There was no ubt that the building in question did cause a depriva- on of light, and in one sense that was a damage; but could not be denied that enough light was still left for dinary business purposes, and that the value of the operty was not affected. It is, however, remarkable that the law has been of the kind represented by their rdships on Monday, so much has taken place which used grievous loss. Buildings have been removed and mense sums paid in compensation which would be un- cessary if a similar judgment had been delivered at an lier period. The Court of Appeal had ordered that the ilding over which the action arose should be demolished, d if that decision had been acted upon there would be no mpensation for those who had to bear the loss. Seven rs ago a similar case arose—CHASTEY *v.* ACKLAND— ich was finally brought to the House of Lords. The ing of the Court of Appeal was not approved, but their rdships sanctioned a compromise, some 300*l.* having en paid for damages originally estimated by Mr. Justice VE at 10*l.* It is, therefore, an error to suppose that the use of Lords was always in favour of the principle that a sonable amount of light and air was sufficient in the jority of cases. Should it be asked why there is a change, answer must be it was owing to the tactics and per- erance of Mr. HOWARD COLLS. Every stage of the test was fought with judgment, and it could not be said t in any instance was a weakness shown which could be ised against the equitable principle which was at stake. the carrying out of the building there was no unnecessary obstruction, and, in fact, the whole conduct of the case was directed with remarkable judgment. It is well to remember that so long a course of litigation, although finally triumphant, entails a large expenditure, to which no taxed costs are likely to be equal. Under the circumstances, it would be unfair if Mr. COLLS had to pay a penalty for his courage. His own interest in the suit was of minor importance if compared with the interests of architects and builders, and, we can add, of the general public. It is, therefore, only just that in some measure he should receive compensation for his risks. Henceforth those who make a business of trafficking in light and air cases and of raising obstacles to the improvement of cities and towns will, in a large measure, find their occupation gone. For that beneficial result the country is indebted to Mr. COLLS, who has achieved a victory which is of far more importance than many of those which are declared to be "national."

ALTHOUGH the French Academy of Art in Rome was founded by COLBERT about 1666, it was not until 1801 that the Villa Medici was utilised for the accommodation of students. The building itself dates from 1540, and was erected for Cardinal RICCI DA MONTEPULCIANO. The position is well adapted for a school of art; the grounds are picturesque, and there are many fine views of Rome and neighbourhood. The director at present is M. GUILLAUME, the sculptor, and he enjoyed the rare privilege last week of receiving the French President. After visiting the greater part of the building M. LOUBET was able to see on the terrace between the villa and the grounds the model of the statue to VICTOR HUGO which is to be presented by the Franco-Italian League to the city of Rome. M. PALLEZ, the sculptor, has emphasised, more than the numerous painters and sculptors who have attempted a similar subject, the heroic wrath of the poet. In one hand he holds a lyre, while the other appears as if stilling the tumult of his breast. The most interesting part of the ceremonial was the inspection of memorials of the numerous artists who had resided in the Villa Medici. It is now becoming the fashion in Paris to sneer at Prix de Rome winners as if they were doomed all their lives to repeat the exercises which won for them the right to live in the villa, and to the imitation of ancient masterpieces which they were expected to send to the Académie des Beaux-Arts. But the list of those prizemen comprises many of the greatest names in French art. It may, therefore, be taken for granted that in spite of the suppressions dictated by economy the Villa Medici will continue to flourish under the Republic as under the Empire and Monarchy.

ACCORDING to the Public Health Act of 1875 an owner is described as "the person for the time being receiving the rack rent of the lands or premises in connection with which the word is used, whether on his own account or as agent or trustee for some other person, or who would so receive the same if such lands and premises were let on a rack rent." That definition is acted on in enforcing payment for the cost of making up roads or paving. It is often difficult to apply the definition, and we have from time to time noticed cases which seemed to be anomalous. A novel instance came last week before Mr. Justice BUCKNILL at the Manchester assizes. The Denton Urban District Council claimed 73*l.* 14*s.* 5*d.* from a priest who had charge of a mission chapel, that sum being the apportioned amount in connection with a new road. The defendant maintained that he was not responsible. The property consisted of a piece of land on which were erected the church, schools and a presbytery. The frontage of the church was not reckoned in the assessment. Counsel for the local authorities argued that if any rent were derived from the land it would be received by the priest; while counsel for the latter asserted that the priest had never received a shilling rent, and if any rent were paid it would go to trustees. Mr. Justice BUCKNILL said there were no decisions by which he could be guided. He gave judgment for the defendant, believing that he was simply a missioner whose business it was to carry on certain work, but who neither paid nor received rent. As a stay of execution was granted there will probably be an appeal.

PAINTING AT THE ROYAL ACADEMY.

THE collection of paintings in this year's Academy exhibition is not one of those which can be described by a word or a phrase. The pictures are too diverse in character; and, indeed, in some cases artists have departed from the subjects associated with their names. Mr. Sigismund Goetze's *Despised and Rejected of Men* will probably be more often talked about than any other work, and on that account, although it is not the best on the walls, the Academicians owe him their gratitude. From the attention it receives, and from some other works which are likewise symbolic rather than directly representative of life, it may be said this is an allegorical year. However, the proportion of such works amidst the 900 paintings is so small as scarcely to justify such an appellation.

What is likely to strike the architect as strange amidst so miscellaneous a collection is that there is not one of the pictures which shows sufficient respect for the principles of decorative art. It is true Mr. Frank Brangwyn sends one of the series of panels for the Skinners' Company, viz. *Departure of Lancaster for the East Indies.* About the ability of the artist there can be no question, and in a country where wall-painting was encouraged he would probably be regarded as a deserving aspirant, but he has allowed himself to follow principles of a different kind from those which mural work needs, until he has wandered far away from the repose and manner of composition desirable. Sir James Lancaster was one of the great Elizabethan explorers who somehow is forgotten, although the man who was the first to guide a convoy to India should always be remembered in Great Britain. The picture is as suggestive of his return as of his departure, for the nude figures, the strange vessels, and the abundant fruit might well be spoils of the East. As in the majority of works by the artist, the colouring is hot and too confused for a painting that should possess an architecturesque character. Mr. E. Normand, who has also talents that might well be utilised, calls his *Elaine* "a design for a frieze." Beyond the fact that the length is about three times the depth, it does not differ from the host of representations of the incident which Tennyson described. A French artist might say that Mr. Solomon's very brilliant *Allegory* is essentially decorative, and perhaps if it were found in the Salon it would receive greater appreciation, but the meaning of the work is too obscure to serve for a wall-painting. It may be assumed that it relates to some conclusion respecting religions, and the figures are graceful in form and luminous in colour. In Mr. Goetze's picture the altar dedicated to the Unknown God might have been derived from some ancient example, and the figure of Christ bound with ropes to it is most pathetic. The crowd, who from the text introduced are supposed to have gone astray, do not carry out the moral intended. The fashionable lady and her tempter, who is of a simian type, may have followed their own way. But with what justice can it be said that the beggar woman who suckles her child, the little newsboy, the navvy, the hospital nurse, the soldier, are similarly walking of their own accord along the broad road to destruction? Some years ago there was a painting in the Salon in which types of the population of Montmartre were seen making their descent on Paris under the eyes of the genius of misery. No one could raise an objection to such a subject, for every spectator must know how a morning's hunger made a large proportion of the denizens of the hill to be akin. But such a mixture of the sacred and the profane as Mr. Goetze presents to us is wanting in that logical consistency which should prevail in paintings with a moral. In the same room is Mr. Rob Sauber's *Mammon.* "The least erected spirit that fell from heav'n" is depicted as a knight in golden armour, mounted on a steed that tramples under its hoofs all that is noble and lovable. Nothing can be simpler or more effective, and yet many a sermon and ethical essay would be less successful, for it is one of those paintings which Shakespeare describes as "more pregnant than words." Mr. Briton Riviere is also a sermoniser this year, for his *Youth* is a hunter who has become so engrossed with his hawk as to be oblivious that his horse has led him to the edge of a precipice on which the dogs look down in terror. As is not uncommon with paintings of the class there is
a little exaggeration, for if the sportsman's eyes were tu
away from the danger, the noise of the cataract within a
or two of him would be likely to liberate his reason.

It is not a strong year for antiquity. Sir W. B. R
mond, who has of late been attracted by grey mists, s
a figure of *Moses Viewing the Promised Land,* whic
impressive. The great legislator, or, as Heine desc
him, the architect who made pyramids and obelisks o
race, stands solitary on the top of Pisgah in a
burnoose, which conceals his arms and gives the figure
appearance of being roughly hewn in stone. It migh
objected that with such an atmosphere it was impossib
see all the land of Gilead and Judah unto Zoar, but
more of a panorama we suppose the mystery would va
The President's principal work is *Asteria,* who is seen
ing from her window into one of the narrow Roman str
She is not, however, the enthraller of Favonius, as
men have imagined her in their school-days. There is
a tendency to impart little refinement to the women of
age. But artists would do well to remember that the
whom Horace admired were, if we may judge from
names, of the Greek race, and therefore likely to be
different from the damsels who clamoured for the dea
unsuccessful gladiators. Sir L. Alma-Tadema, in
Ever new Horizon, three Roman ladies gazing ove
sea, would also appear to be somewhat inclined to
the adoption of faces of a bolder type. Mr. Peru
A Dreamer is of the antique world, and would
pass for a figure by Leighton, for it has all his grace
repose.

Mr. Draper deserved the position assigned to hi
the line in the large gallery for his *Golden Fleece.* It i
most important work he has produced. According t
legend, Medea aided the Argonauts in stealing the g
fleece which her father Æetes possessed. He foll
his daughter, and overtaking them at sea Medea, in
to divert his course, dismembered her brother Absyrtos
accompanied her, and cast the limbs in succession int
sea. The delay in collecting the fragments enabled M
to escape. Mr. Draper adopts a version which r
that the youth was thrown bodily into the sea, an
represents the frantic efforts of Absyrtos to clutc
sister's garments, and in that way to save himself. It
difficult a subject, it would serve to be adopted f
academic competition. Leighton's influence is visib
the treatment, but that does not diminish the surprisin
of Mr. Draper. From a painter who has accompl
so much still greater works may be anticipated. A
pleasant Greek subject is seen in Mr. Storey's *F*
Messenger. Whether we regard the myth of Persep
as a representation of the change of the seasons, or t
as a legend of a beautiful girl who had to pass
beneath the earth, the picture will remain charming.
landscape is perhaps more English than Greek; but i
something Venetian in the colouring, and as long a
have a summer scene we should be contented. The
some affinity between the surroundings and Mr. Sto
figures, although neither the daughter of Zeus an
messenger from Pluto are statuesque. Mr. Waterho
Psyche Opening the Door into Cupid's Garden giv
his favourite figure with "nose tip-tilted like a flo
The arrangement of the doorway would not be very
to a builder, and the circular temple in the gard
scarcely a masterpiece in design. But as the figure
girl nicely clad and charming, although lacking in intelle
expression, it deserves a mention.

There are a few pictures of what we may call the i
mediate period between ancient and modern times.
Frank Dicksee shows the bust of Joan of Arc in
armour with a white surcoat embroidered with fleurs-
and the head surrounded by a white nimbus. I
heroine were canonised it might fitly be hung above
altar. Mr. Sant, who is not often attracted from
fashionable world, has painted a similar figure, alth
the girl is in a peasant's dress. Is not *In the Wiz*
Garden by Mr. G. D. Leslie an illustratio
"Rappaccini's Daughter," by Hawthorne? Where
originated the picture is delightful, and the figure of th
although she is English, looks charming in her I
dress. His *Courtyard at Compton Beauchamp* is
familiar; the doorway and framings of the windo

painted in pale salmon, a rather unusual colour to be preserved in a picture, but it suits the old house and courtyard. The quiet scene is enough to convert an American spectator to a belief in the superiority of English over Italian houses. Mr. Abbey in *A Measure* shows a girl going through a stately movement at the foot of a flight of stairs, with spectators above and a solitary gentleman near the dancer. The absence of expression in her face produces a disagreeable effect, and it might easily be supposed she was suffering from some psychological ailment. In these days, when the revival of craftsmanship is sought, *A Candidate for the Guild*, by Mr. Ralph, has interest. It shows a young metal-worker who has completed the framing of a beautiful lamp and who presents it before the judges. The incident is somewhat novel, and the varying expression on the countenances of all the spectators is capitally rendered. Some of the arbiters are as unmoved as if a similar work came before them every day.

Among modern incidents which have been depicted, the most important on account of its subject no less than on account of its execution is *The City Fathers' Welcome to King Edward VII.* "Rien de trop" recalls one of the most important principles in all art. But it is unavoidable on certain occasions to aggrandise costume although it may lead to excess. Important as are the aldermen and other officials in red robes, a crowd of them tires the eyes of all but extremely loyal citizens. Mr. Hatherell accepted the inevitable and has boldly grappled with the difficulty. The ladies' dresses, the tables crowded with eatables and drinkables, and the old hall with its statuary slightly subdue the dominant colour, but the picture has to be taken as a representation of the scene, and it cannot be said that any other of our artists could have been more successful. *The Opening of the First Parliament of the Australian Commonwealth* is another valuable collection of portraits in uniform which extends across one wall of a room. The work is to be considered as a record, and as well as can be observed from below, it appears to contain a vast amount of honest labour. After such an exercise in portraiture Mr. Roberts should be able to deal with any assembly.

It was to be expected that portraits would be in abundance this year, for although pictures of other kinds may not be in demand people are always eager to be immortalised. Mr. Cope's *Archbishop of Canterbury* is strong in the contrast between the blue and white robes of a prelate of the Garter. It would be easy with a weak artist for the trappings to confound the flesh painting, but Mr. Cope's head stands out with great force of character. The same painter has suggested "sad-eyed justice" in his portrait of the Lord Chief Justice, which is among the best works of the year. Mr. Shannon has been successful with the portrait of *Sir William Emerson*, which is intended for the Institute collection, and who is represented as if explaining a block plan. The portrait of *Mr. H. Sydney Carton*, also by Mr. Shannon, is more boldly handled, and it will be found the expression somewhat varies according to the distance the visitor stands. Mr. Sargent's *Countess Lathom* is almost too big for the principal gallery, but the robe, which is purple brown, might be the work of an assistant, for it is less broken than is usual with the artist. His *Duchess of Sutherland* is a smaller but more striking work, for a lady in green is rarely seen on the walls. Mr. Chamberlain is not a desirable subject, for, judging by the numerous portraits and photographs of him which have been produced, he has to be presented in one pose and with one expression. Mr. Von Herkomer has done his best under the circumstances. Mr. Harris Brown has been very successful with his portrait of *Mrs. Siward Surtees.* Mr. Herbert Draper, who hitherto has painted youthful figures, has presented a pathetic figure of *The Dowager Duchess of Abercorn in her Ninety-Second Year.* Mr. Bacon's *T. P. O'Connor, Esq., M.P.*, is suggestive of geniality and talent, and the peculiar costume aids in giving effect to the portrait. *Professor Ray Lankester* is shown as lecturing by the Hon. John Collier, and in that way the portrait is preferable to the usual stiffness which is imagined to be professorial. *The Merry Wives of Windsor*, by him, in which Mrs. Kendal, Miss Ellen Terry and Mr. Beerbohm Tree are introduced, will be the artist's most popular work. It is not unworthy to be compared with *Garrick between Tragedy and Comedy.*

The only landscape by Mr. North this year is *The Brightest Days*, in the first room. Everything is bright in it, and more especially the garments of the figures in the foreground. But when there is so much rock of reddish sandstone it seems incredible that such a profusion of greenery should grow out of it. Mr. Leader's *Sandy Shore* is one of those stretches of creamy sand found on the south coast, and in which bright blue flowers contrive to grow. Mr. A. Parson's *In the West Country* is characteristic of subject and style. Mr. Down's *Day of Rest, Winter*, is a northern harbour in which the quays and all the boats are covered with hoar frost; it seems to be true to nature. *The Surrey Hills*, by Mr. H. W. B. Davis, is attractive from its blossoming trees as well as from the cattle. Mr. East presents this year foreign subjects in France, Egypt and Japan. In each, however, the manner of the artist is the same. Mr. Macwhirter as usual presents his favourite Scottish trees, and Mr. Peter Graham the familiar jutting rock, foam and sea-gulls. If the Academicians have been able to subject themselves to a rule restricting the number of pictures, they ought to follow it up by enacting another which would put some limitation on the reproduction of the same things whether figures or the elements of landscape. Much of the disappointment of visitors arises from their familiarity with objects which were often previously exhibited. They desire novelty, and they are offered stock subjects which long have lost all interest for them. *Golden Dawn*, by Mr. Walter Donne, shows a part of the Italian coast and of a small town as viewed from a height. The title is derived from the lofty rocks which appear as golden, and they are in strong contrast with the sea and the closely packed houses. One of the most interesting works of its kind is the *Full Moon and Spring Tide* of Mr. D. Farquharson. In it we see a rocky coast and on the summit of one of the hills is an ancient castle. The roadway is raised and is dark on its steep side. The moonlight falls upon the waters beating against it, and which are thus in contrast not only with the dark rocks, but the sea beyond. This is a painting which merited to be acquired for the nation under the Chantrey bequest. Mr. Murray's *Heat of the Day* is an effort in a new field. *The Invincible Armada*, by Mr. Albert Goodwin, shows some ruined vessels and a rocky coast, with a lurid sunset. It recalls some of Danby's seascapes. There could hardly be a stronger contrast than such a scene presents with the *A Sunny Shore*, by Mr. L. Smythe, in which children are seen playing at the seaside under the strongest light. Mr. W. L Wyllie shows St. Paul's as seen from the river, but he is not more successful with the dome than many other painters. It is remarkable that so much difficulty should be experienced in representing so familiar and beautiful an object.

ARCHITECTURE AT THE ROYAL ACADEMY.—II.

We dealt last week with the drawings which relate to buildings in the Colonies, India, &c., or which are of an exceptional class. The majority of the designs in the Architectural Room must, however, be considered as resembling those in preceding exhibitions, for they represent buildings in England. There are a few from Scotland. One is "New Buildings, Marischal College, University of Aberdeen," by Messrs. Mackenzie & Son. The perspective might be described as an exercise in foreshortening, as if to suggest the spikiness of Northern Gothic. To the redoubtable Captain Dugald Dalgetty the drawing of the transformed school of his youth would recall the "Swedish feathers" with which he was familiar. "Rosehaugh, Ross-shire, N.B.," by Mr. W. Flockhart, resembles a French château with a large tower. The outer wall is suggestive of provision against attacks. The sketches of the interior show rich colour decoration. The design is a welcome deviation from the numerous English mansions of the type now in favour, but châteaux are less foreign in the North than in England.

Of late years there have been efforts to dispel the monotony of Harley Street; "No. 101," by Mr. Henry White, has bay windows on three storeys and two rows of small windows in the attics. With so narrow a strip there is not much room for display, and the treatment as indicated is one of the few solutions which are possible. In "The Reception Hall, Rectory Farm, Streatley," Mr. O. P. PARSONS introduces a gallery all round with pleasing effect, and painting and tapestry is used with discretion Mr. C. R. ASHBEE represents "75 Cheyne Walk" on two drawings. The exterior is extremely simple, and seems more marked by the gateway, which we suppose is a *porte-cochère*, with a smaller door at side. The interior is in very cool colours, with paintings let into the panels. There is a small house at Potter's Bar by Messrs. B. FLETCHER & SONS. "The Carriage Court, Tylney Hall," by Mr. R. S. WORNUM, is Tudoresque, with great windows. The house at Munstead, by Mr. MOUNTFORD, shows two blocks united by a porch and with offices or cottage at side. Mr. E. GUY DAWBER sends three large country residences, which are grouped with much artistic effect. Messrs. ERNEST GEORGE & YEATES have in Eynsham Hall a characteristic example of their treatment of the Tudor style. It is symmetrical in arrangement, and the effect is increased by the tower. Ruckley Grange, Shropshire, is less formal; the projecting porch is effective, and there is a loggia; three entrances are visible from the point of view taken. The almshouses on the Ashton Court Estate, by Mr. E. GABRIEL, are not suggestive of poverty, and are evidently established by some benevolent proprietor. A more costly group is shown on another drawing by Mr. WARWICK. The house at Parbold, Lancashire, by Mr. J. HARGREAVES, is one of those combinations of white walls, green window-framing and grey slates which are supposed to be more reposeful than red brick. In the medical superintendent's residence at the Midhurst Sanatorium the red tile roofing, with its attics, is carried to excess by Mr. H. PERCY ADAMS. What advantage there may be in attics is not plain, for the large chimneys denote the existence of several rooms and fireplaces in the building. The endeavour, no doubt, was to produce the effect of a cottage. "Ingram House," by Mr. A. T. BOLTON, is, we presume, an institution of some kind. It is one of the designs of the exhibition in which effect depends mainly on immense pilasters. Mr. MAWSON'S "House and Gardens at Berkhampstead" make a picturesque but formal group. Mr. A. N. PRENTICE'S "Chelwood Manor, Sussex," of which there are two drawings, shows so much timber, there appears to be a repetition to excess of vertical lines, but when executed the work may be less marked than on paper. "Shipton Court," by Messrs. PERKIN & BULMER, is no doubt interesting, but the drawing is placed too high to have justice done to it. "A House in Kensington Palace Gardens," by Mr. E. WARREN, is represented by a geometrical drawing and looks in consequence somewhat stiff. It will, however, not be out of keeping with its neighbours. "Cliff Towers, Devon," by Mr. C. HARRISON TOWNSEND, shows house as well as garden and is interesting without suggesting any innovation. "Hornton Street, Kensington," is to be rebuilt, and Mr. F. S. CHESTERTON endeavours to avoid the usual character of a London thoroughfare by introducing bay windows in two storeys in some and three storeys in others. Mr. LESLIE W. GREEN in his "New Premises, St. James's Street," makes each floor assume a different character. Mr. VOYSEY this year employs red brick for a "House in Hampstead."

Several examples of commercial premises indicate that people are now realising that in the battle of commerce mean and dingy places of business will no longer serve. The "Warehouse, Great Charles Street, Birmingham," by Mr. W. H. BIDLAKE, of red brick and stone, is an excellent example of the class of building that is desirable. Another is the "Block of Offices in Queenhithe," by Mr. F. E. WILLIAMS. More remarkable as a recognition of the principle of improvement is the "New Foreign Flower Market, Covent Garden," by Messrs. LANDER, BEDELLS & CROMPTON. Foreigners may be surprised by so sober a treatment of Italian, but too much modernity is not to be expected. The Prudential Assurance buildings preserve a character that is at once recognisable throughout the country. Mr. PAUL WATERHOUSE upholds the tradition in the additions at Liverpool. The only deviation seems to be that the summit of the tower instead of being pyramidal has curved sides. The premises at Vauxhall Walk, by Mr. VAL MYER, suffer by the extent of the white shuttering or boarding for which no doubt there may be some reason. The arc over entrance is large, the curves of extrados and intrado being different. Fetter Lane used to be one of the mos commonplace thoroughfares in all London. The chang now in operation may be judged from the design for ne premises by Messrs. TREADWELL & MARTIN. The build ing is somewhat Germanic in style, for some architect apparently consider it is well adapted whenever a whit stone front is desirable. Messrs. GOTCH & SAUNDERS hav adopted an Italian type for a bank at Kettering. Th extended Savoy Hotel, by Mr. T. E. COLLCUTT, will be on of the features of the new Strand. The view shows th part facing the thoroughfare, with a bridge across Savo Court. The building is impressive and will bear comparison with any other in London, while the interior is unusuall luxurious. The "Offices, Parliament Street, Nottingham," by Messrs. BREWILL & BAILY, has pediments with a acute angle to the windows, and a similar triangle i adopted in the gable. Simple as is the arrangement, it confers some novelty. The "Proposed Premises of Chancery Lane," by Mr. T. E. COOPER, will present façade in blue and yellow, an arrangement which is no common, but which may be successful. "The Carpenter' Arms, Charlton, near Bristol," by Messrs. W. S. PAUL & R. C. JAMES, is a superior example of its class, as becomes a house claiming to be connected with building. It is the only public house in the exhibition.

The educational structures are fairly numerous this year, and of several classes. "The Higher Grade School at Hackney," by Mr. BAILEY, is superior in architectural character to the majority of designs which emanated from the School Board. But could nothing more apposite than urns be discovered to surmount the balustrading? Near it is a view of "Schools at Isleworth," by Mr. H. O. CRESSWELL, which, with the exception of the central block, are but one storey in height. "The Hall for Women Students of the University of Liverpool," designed by Mr. F. M. SIMPSON, may from its plainness be intended to convey some lesson against adornment. There is a wide difference between it and the "Hall for the St. Paul's Girls' School," of which a sketch with the painted decoration appears from the hand of Mr. E. J. LAMBERT. Mr. BASIL CHAMPNEYS prefers to show his "Library at Somerville College, Oxford," by geometrical drawings. It is a long red brick building. Pilasters which slightly project are employed, and they will be found to correspond with divisions on plan. The design is unpretentious, but well adapted for its purpose. Mr. S. B. RUSSELL, in the "Passmore Edwards Public Library" in Bow, has taken the precaution to keep the windows on the ground floor at such a height that readers will not be distracted by objects passing in the street. The "Hall and Classrooms for the Commercial Travellers' Schools, Pinner," by Mr. H. O. CRESSWELL, can be called secular Gothic, and judging by the drawings no derogation from use will be suffered by the adoption of that style. The old objection about lighting does not apply, for the windows are large and numerous. Mr. BODLEY'S "New Roof at Magdalen College Hall, Oxford," is of course a Gothic arrangement. The timbers are coloured and harmonise with the hall, in which several portraits and a screen are found. The whole interior forms a pleasing picture. The Cartwright Memorial Hall, Bradford, is to be an aid to education; Messrs. SIMPSON & ALLEN show in their drawing only a part of the building, in which the treatment of the basement with massive voussoirs to the arches is satisfactory.

An Academy exhibition would be incomplete unless there were several churches in it. Mr. BODLEY'S "New Tower for St. John's, Cowley," is somewhat sterner in character than is usual with him. The top is battlemented, and a great crucifix is introduced in the upper parts. The whole composition somehow agrees with the figures of monks appearing at the base. Mr. JACKSON in the "New Chapel for Hertford College, Oxford," shows windows separated by Corinthian columns, and a liberal use has been made of sculpture. A bell tower of unusual form is seen in a design for a Wolverhampton church by Mr. PERCY L. JAMES. The "West Front of a New Church at Peckham" is by Mr. H. P. BURKE DOWNING. It is Renaissance in style, and is successful as a whole and in detail. The "St. Giles's Mission Church," by Messrs.

Rüntz & Ford, possesses more architectural character than is usual with buildings of the kind, and Gothic has been adopted. St. John's new church, Palmer's Green, by Mr. J. Oldrid Scott, is an admirable group to which variety is imparted. There is a low tower. It is to be hoped that no part will be omitted, for it would be a loss if the design were not carried out in its entirety. Mr. J. J. Burnet, of Glasgow, shows the new organ and chancel in King's Weigh House Church, Grosvenor Square, in which ornament in colour and paintings are introduced. The new lectern and reredos of Abbey Dore Church is by Mr. R. W. Paul. The lectern departs from the customary design, as there is no eagle. The desk rests upon a column. In the reredos armorial bearings as well as ecclesiastical symbols are introduced. One very curious church is that for the Christian Scientists of Manchester, by Mr. Edgar Wood. The front may be said to form a great gable, and two auxiliary buildings appear to be laid out at an obtuse angle with the church. One of the designs for Liverpool Cathedral, that by Mr. W. J. Tapper, is exhibited.

Among the other drawings is the British Pavilion at the St. Louis Exhibition by Messrs. Ernest George & Yeates. The influence of Queen Anne and of Kensington is apparent ; for the front of Wren's Orangery was followed. The head office of the Norwich Union Insurance Society by Messrs. Skipper is Classic of an old-fashioned but impressive type, with great columns carried through two storeys. The County Hall, Northallerton, by Mr. Brierly, would serve for an immense mansion, for there is no tower or indication of a public building. The saloon of an Orient liner, by Messrs. Stevenson & Redfern, might serve for an Exchange if it were not for the great tie beams. The exhibition makes it evident that, although there has been depression of business, there are many buildings in hand or about to be erected.

THE ROYAL ACADEMY.

At the dinner of the Royal Academy on Saturday last the Master of the Rolls proposed the toast of the Academy. His Lordship said :—Happily for myself, I do not pretend to be a critic, and I do not therefore venture to pass any comment whatever upon the glorious works which surround us, but this observation I think I am entitled to make. It does seem to my uninstructed eye a thing to be proud of, on looking at the chosen efforts of artists of the British school, that there is not in this Academy, I believe, a single picture of an unwholesome, meretricious or suggestive character. It may be that I am violating all the canons of art by hazarding such a statement as a ground for claiming merit in an exhibition of pictures, but whether it be consistent with the rules of art or not, I cannot myself think that this exhibition is any the less interesting or valuable because of the complete absence of that element which, in my experience, is not absent from all galleries. There is another observation I desire to make, speaking still as one of the uninstructed. It seems to me that the cult of the ugly, if it ever existed in England, does not appear to be in favour now. I am bound to say that the cult of the ugly for itself, the cult of the horrible and the grotesque of which we see so much in some other galleries, appears to be conspicuous by its absence in this, and I think that that also is a ground of merit in the present exhibition. But, sir, grateful as we all are for your hospitality and for the magnificent surroundings in which you have placed us to-night, I think there is a still larger debt of gratitude due to the Royal Academy from the general public who are not represented here. Most of us in these days have to live in crowded centres. Most of us pass a considerable part of our time in the unlovely surroundings of tubes and tunnels, and, I might add perhaps, of the law. We pass our lives surrounded by the standards of artistic excellence which appear in the advertisements in the railway stations and in the glaring vulgarities of the hoardings. In these circumstances, do we not owe a debt of gratitude to you, who by permitting us to look upon these creations of art and imagination take us out of these sordid and unlovely regions into the realm of the lovely and the ideal?

The President, in reply, said :—On behalf of the members of the Royal Academy I have to return my most cordial thanks to the Master of the Rolls for the kindly and appreciative terms in which he has spoken of the Academy and of this particular exhibition. A somewhat fierce onslaught has been made upon us from certain quarters which appears to have caused less commotion and aroused less antagonism than its authors hoped. There is, perhaps, a suspicion that behind the urgent cry for the reform of a prosperous and successful institution may lurk the not altogether disinterested "Ote-toi que je m'y mette," or the highwayman's demand of "Your money or your life." I do not think that to those who have considered the subject seriously the proposal will find favour that the Royal Academy should give up its schools, which have produced so many distinguished artists. They have been from the first the chief of the functions which it is its duty to discharge, and which keep up the tradition that at a time of something like anarchy in art, a course of instruction is as necessary in art as in any other subject. The year has not been without its losses to the Academy and outside its walls. Our respected member John Horsley passed away at a great age in the autumn of last year. A selection of his works in the late winter exhibition justifies the position which he held for so many years in public favour. Although not in accordance with the taste of the day, they displayed more true feeling for art than the modern schools are perhaps willing to acknowledge. He virtually ceased to practise his art somewhat early in middle age, and with ample leisure on his hands was for many years the mainstay of our winter exhibitions, and it is to his zeal that we owe those magnificent displays of the works of Reynolds and Gainsborough and other English masters which for many years annually adorned our walls. Another member, Erskine Nicol, was lost to us early in this year. He had for many years through ill-health ceased to exhibit, and retired early as an Associate from the Academy. A more conspicuous name will come to your minds when you reckon up the losses which art has sustained—that of James McNeill Whistler—about whose memory as fierce a controversy has been carried on as he ever waged with his critics in his lifetime. Thrown very intimately into his company in early days, I knew him well when he was a student in Paris—that is, if he could be called a student, who, to my knowledge, during the two or three years when I was associated with him, devoted hardly as many weeks to study. His genius, however, found its way in spite of an excess of the natural indolence of disposition and love of pleasure of which a certain share has been the hereditary attribute of the art student. He was ultimately forced to paint, because he was a born painter and could not help it. Impatient of labour, however, the brilliant resources of his wit supplied him with admirable reasons for carrying his work no further than inclination prompted. His followers and imitators quickly seized the situation, and gladly hailed an authority which seemed to give them a dispensation from the irksome necessity of learning their craft to completion ; and the art of leaving off when the difficulties begin is, I am afraid, the heritage of this gifted artist. They forget that it is the freshness and originality of Whistler's genius, showing itself in a natural grace and in the most exquisite and ethereal scheme of colour which has ever been put on canvas, that make us forget the imperfections in other directions which, unluckily, he too willingly condoned in his own work His habit of making fun of his critics, and even of his adherents, has misled them into the belief that his admiration of the great masters of painting was limited to Velasquez, or, to recall a popular story, to himself alone ; but in his serious moments no one showed a greater respect for the works of great artists, and that in quarters where he would be least suspected of sympathy. The tragic end of the Russian painter Verestschagin has deprived the world, no doubt, of another series of pictures depicting with marvellous verity the horrors of war, the dangers of which he was as courageous in facing as he was courageous in denouncing them ; and the premature death of Phil May has lost us a characterist, or, I should rather say, a delineator of character of exceptional brilliancy. A further loss has been sustained by this Academy in the death of one of its honorary members, Mr. Lecky, whose high reputation in the world of letters is too well established to need any panegyric from me. He held the post of Secretary for Foreign Correspondence—the first of the honorary posts which was established by the Academy the year after its foundation. In recent years, before Mr. Lecky, it was filled by Lord Houghton and Robert Browning. I have the pleasure to announce that Lord Avebury has done us the honour of accepting this post and becoming a member of our body. I have before alluded to the assistance which is given us by those owners of works of art who contribute to our winter exhibition. A new feature last winter was a collection of the works of Sir Thomas Lawrence. His Majesty the King led the way with two superb examples from Windsor. I venture to think that this exhibition, especially where Lawrence's early work was concerned, was something of a revelation, as no collection of his paintings had until then ever been before the public. The King also contributed two remarkable works to the collection of bronzes, which made another feature of our exhibition. To His Majesty and to all those who so willingly parted with their treasures of painting and sculpture for our benefit the thanks of the

Academy are due. I will not detain you longer than is necessary, but the company assembled here will, I am sure, be glad to know that there is every prospect of a highly successful exhibition of British fine art at the St. Louis Exhibition. A sub-committee was formed by direction of the committee which was inaugurated by His Royal Highness the Prince of Wales at Marlborough House last summer. Composed of representatives of most of the artistic societies of Great Britain, it held, I think, twenty-six meetings, or even more, and made a selection of works which by the kind help of the owners of modern art, who seem never tired of giving their charitable assistance, will form what I have every reason to believe will be the best exhibition of the British school which has yet been put before the foreign public. The St. Louis Exhibition is being opened, I believe, to-day, and it is hoped that, as at Brussels and Paris, our section, with its catalogue, which is already completed, is ready for the opening—a fact which we largely owe to the exertions of one of our hon. secretaries, Mr. Isidore Spielmann. Your Highness and gentlemen, I thank you for your presence this evening and for the kind attention which you have given to my words.

THE "CHAPEL OF THE PYX," WESTMINSTER.

A LECTURE was delivered by the Dean of Westminster at the Royal Institution, last Friday, on "Westminster Abbey in the Early Part of the Seventeenth Century." He reviewed the lives of the Deans of the period, laying special emphasis on the importance of the events of the time when Dean Williams held office. He referred to the alterations made in the building and to the existence of several prebendal houses in the churchyard, giving a brief history of their origin by extracts from the minutes of the Chapter. Dealing, finally, with what is known as "The Chapel of the Pyx," he mentioned some of the ancient history connected with it, and sketched the incidents which led up to its being opened by order of the Long Parliament, an operation which he characterised as an outrage against both Church and State. He said that the history of this Royal treasury in the earliest times was very obscure, and only recently antiquaries had cast some doubt upon whether this chapel was really the treasury chamber. It was strongly argued that this chapel in the cloister was not the treasury, but that it was the vaults beneath the chapter-house which were used for this purpose. It, however, remained certain that since the days of Edward III. certain Royal treasures were kept in this chapel. A certain portion of the regalia were kept there; and there, too, were kept the Chancellor's tallies, and it was undoubtedly used as a treasury for records. Gradually, however, everything had been removed, and all these things had found a home elsewhere. The chapel was now empty, but the ancient altar was still there. The chapel was only 30 feet wide and 30 feet long, with a heavy round column in the centre. It originally formed part of a long chamber with six central columns, and was in all about 100 feet long, about the same length as King Henry VII.'s Chapel. It was the oldest remaining part of the Abbey, belonging to the building of Edward the Confessor. It was now divided by partitions of stone and brick into four small compartments. He sometimes fancied he saw in vision in the future a new period of public usefulness for this ancient and forgotten place. He seemed to see these four vaults reunited into one long chamber, with the old altar repaired, so that they might worship once more in the one sacred portion of the Abbey which took them back to the time of Edward the Confessor. And, further, he seemed to see it being used as the burial-place for some of the great men of the future, and its walls being occupied with memorials such as were now rapidly filling the few remaining places in the Abbey. He dared not put this forward as a scheme, but only as a dream. But he certainly saw in it a solution of the problem that they had battled with so long of how to maintain the splendid traditions of Abbey burials, which otherwise would soon become a glory of the past. They had had projects of new buildings, only to be laid aside as impracticable. The restoration of this ancient chapel and opening it to the public would involve only a minimum of disturbance, while an extension of the scheme might involve another chapel contiguous to this one as well as the site now covered by the buildings of the gymnasium of the Westminster School. He put forward this suggestion quite tentatively, and with no intention of pressing it. It was, however, in his opinion, worth consideration, and the difficulties connected with it would not be insurmountable if the idea should commend itself to the public mind and should obtain the consent of the highest authorities. Quite apart from any such suggestion, he would venture to express the hope that the time had come when, with the general approbation of Englishmen, this little chapel might be restored to the custody of the authorities of the Abbey and be used as it was in ancient times for sacred purposes. A special interest would then attach to it as being the only portion of Edward the Confessor's building still capable of being used for Divine service, and arrangements might be made by which reasonable opportunities might be given for viewing it at other times. There was no reason to suppose that the King could any longer make use of this portion of this long, vaulted chamber for keeping his treasures, and so alienate it from the Abbey authorities. It therefore seemed to be only reasonable that, if the State no longer required the chapel for the purposes of a treasury, it should revert to its ecclesiastic use.

RUSKIN AND ARCHITECTURE.

A LECTURE on "Ruskin and Architecture" was given at the Manchester town hall on Tuesday by Mr. S. H. Capper, Professor of Architecture at the Victoria University of Manchester. Mr. Thomas Worthington presided. The Lord Mayor (Mr. T. T. Shann) and the Mayor of Salford (Mr. Alderman Stephens) were present, and the hall was well filled.

Professor Capper spoke of Ruskin's attitude towards architecture as an art, and pointed out where he thought Ruskin was a misleading guide, and also where his guidance was stimulating and good. The "Seven Lamps" and the "Stones of Venice" were his two most important books in association with architecture. The latter dated from 1851 to 1853, and it was important in that it showed that Ruskin approached architecture not from the professional side nor from the strictly historical side, but from the æsthetic and philosophical—and, above all—from the moral side. In the first place, for Ruskin architecture was reached through the higher arts of painting and sculpture. His attitude towards architecture was that of the moralist and the social reformer, as well as that of the art crusader. The "Stones of Venice" was written avowedly to show how the rise and fall of the Venetian builder's art depended not on his art at all, but upon the moral or immoral temper of the State. There was a right and wrong in art, and for Ruskin what was wrong in art was as wrong as moral delinquency. He was the devout priest of nature. What was to be found in nature was the whole mark of beauty, and the more firmly that beauty was established the more frequent was its natural occurrence. Ruskin did not regard architecture from the architect's point of view, and it would be found that architects did not accept the position he took up. He insisted with all the strength of which he was capable on the essential character of architecture as a vehicle of sculpture. Ornamentation with him was the principal part of architecture. The highest nobility of a building did not consist in its being well built, but in its being nobly sculptured or painted. If that were true, Professor Capper said, the Pyramids, the Temple of Theseus and other famous works would be excluded from the definition of architecture. Professor Capper, in concluding, said he looked upon Ruskin's influence as in the main one of fine impulse. Often and often one found in him, robed in literary garb of the utmost grace, noble and true conclusions and vital stimulus.

The Lord Mayor, who moved a vote of thanks to Professor Capper (seconded by Mr. John Angell), said that from 60,000 to 70,000 people had visited the Ruskin Exhibition.

THE PRIORY, CLERKENWELL.

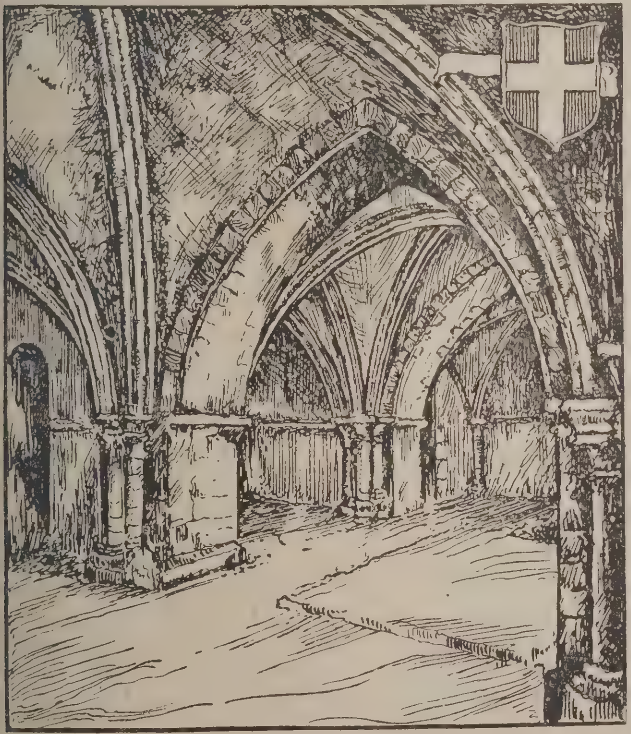
ST. John's Gate, the Priory Church and its ancient crypt were recently visited by members of the Upper Norwood Athenæum. At St. John's Gate they were welcomed by Mr. Henry W. Fincham, a member of the Order of St. John and churchwarden of St. John at Clerkenwell, who very kindly showed the treasures of the Order, and afforded much valuable information to the visitors. From the library on the ground floor, containing a collection of books and prints relating to the history of the Order, they passed to the chancery on the second floor, where other pictures and objects of interest were seen and the stone chimney-piece which was brought from the adjacent Baptist's Head, and bears the arms of Sir Thomas Forster. After inspecting the old and new chapter-rooms with the splendid collection of portraits of former grand officers of the Order of St. John, the members proceeded to St. John's Church, where Mr. Fincham pointed out the traces left of the original choir of the Priory Church, the details of the architectural work of the crypt, the additions made from time to time, the interesting masons' marks, the fragments of masonry and objects of antiquity found in the vicinity and carefully preserved here, and last, but not least, the segments recently found which afford the necessary evidence to show that the vanished nave of the Priory Church was round.

After expressing their cordial thanks to Mr. Fincham for his kindness, and congratulating him upon the care with which so deeply interesting a building was preserved by its custodians, the members proceeded to the Manchester Hotel to tea.

The following paper was read by Mr. Theophilus Pitt, F.C.S. :—St. John of Jerusalem was a Cypriote, a native of the island of Cyprus, and being famed for his charitable acts, was known as Johannes Eleemosynarius—John the Almsgiver. The Society which took St. John of Jerusalem for its patron saint was not originally a military society, but was founded by merchants trading in the Holy Land and adjacent countries for the purpose of providing "hospitia," or places of rest and refreshment for persons travelling in Palestine, pilgrims, merchants and others. When a state of war was created by the many and repeated attempts of the Crusaders to wrest the Holy Sepulchre from the possession of the infidel Turk the Order was naturally compelled to fortify and garrison its "hospitia," and so it became an order of military, who were called Knights Hospitallers, our English Crusaders proper being known as Knights Templars. In later times the Order appears to have considered (possibly through a *lapsus memoriæ*) that its patron saint was St John the Baptist, and this dedication was generally accepted. When the members of the Order were driven from the Holy Land they went to St. Jean d'Acre, then to Cyprus, afterwards to Rhodes, and finally they were allowed to occupy Malta. This island they held until Napoleon I. seized it for the French, from whom we afterwards took it, and though the Society was practically broken up after this, its organisation was continued, and the English branch, or *langue*, of the Order is now doing, as we know, a valuable work in the furtherance of the original idea—aid for the sick and wounded and the promotion of instruction in ready methods of assistance to the injured. The English *langue* of the Order of St. John of Jerusalem should have been entrusted with the organisation of the hospital systems of the country, but we lack imagination, and so desirable a purpose remains among the "might have beens."

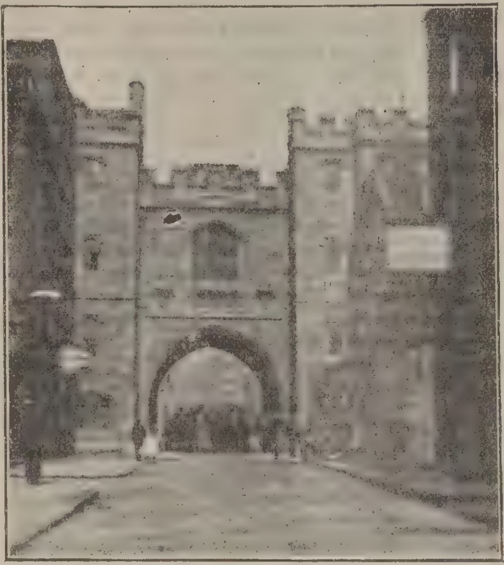
Early in the twelfth century, about the year 1100, a parcel of land in Clerkenwell of about 10 acres was given to the Knights Hospitallers by Jourdan de Briset and Muriel, his wife, and the English branch of the Order was founded, the church being consecrated on March 4, 1185, by Heraclius, Patriarch of Jerusalem.

The man in the street would hardly associate St. John's Gate with St. John's Church, and he would doubtless express surprise if told that the gateway was the entrance to a once important and extensive priory, which covered the space bounded by St. John Street on the east, Red Lion Street on the west, Clerkenwell Green and Aylesbury Street on the north, and Berkeley Street and Passing Alley on the south. The present gate was built by Prior Docwra in 1504, and has been restored twice since 1856. It had two predecessors on the site. One was probably built with the priory in or after 1100; the other was erected after the destruction of the buildings in 1381 by Wat Tyler and Jack Straw.



ST. JOHN'S CRYPT.

The Gate is built in the style of the date of its erection, the Late Perpendicular, of bricks with Kentish rag facings, and is flanked by two towers. The central archway has rooms on either side, and the large hall is immediately above it. Its roof is ribbed and groined; on the outside are the arms of England and France, the Order of St. John, Docwra and Greene, and on the boss in the centre of the vaulting the Holy Lamb is carved. After the disruption of the Society and the passing of the property into private hands, in the manner peculiar to Henry VIII. and Edward VI., the Gate was fortunately allowed to escape demolition, probably because it was but recently built. In the year 1731 Edward Cave edited and published the *Gentleman's Magazine* from the Gate, and many an hour was spent here by Dr. Johnson in writing for the magazine and in that literary fellowship for which he was famous. Later still the Gate became part of the adjoining tavern, and is now the headquarters of the revived Order of St. John of Jerusalem.



THE GATE.

All that is left to us of the once magnificent Priory are the walls of the present church and the crypt. The original Priory Church was a small chapel of three bays, built, as the date indicates and the structure testifies, in the Norman style. This chapel doubtless had a semicircular apse at its eastern end, was vaulted and had small windows widely splayed. At a period not very much later than the date of the first chapel, a chamber was added on the north side, as shown by the character of the present north wall, which is Norman of a later date; still further additions were made about 1170 by extending the then existing buildings to the eastward and northward, thus forming an undercroft or crypt to the choir of the Priory Church, which was next undertaken. These extensions of the crypt are in the Transitional period from Norman to Early English, and it is interesting to compare the bases of the responds in the upper church on its eastern wall with the corresponding work in the crypt. We can see also that the Norman work of the bays includes the usual plain pilaster, with square abaci, while the Transitional work includes pilasters made up of groups of shafts, a pointed shaft in the centre, with circular ones at the sides.

One deeply interesting discovery may be recorded here, which was made so recently as the year 1900 The naves of the churches of the Knights Templars are round, as is also the church of the Knights Hospitallers at Maplestead; it might have been assumed that the nave of St. John's was also a circular one, but there was no evidence until two segments of the foundations were exposed to view four years ago The "Illustrated Guide to the Priory and Church of St John," by the Rev. Thomas W. Wood and Mr. Henry W. Fincham, is my authority for the following quotation, and they are to be most heartily congratulated for the result of their deep interest in and loving care for these interesting historic remains:—"They (the segments) were found in an excellent state of preservation, most of the stones being clearly and sharply cut, and show plainly the marks of the workmen's tools which fashioned them more than 700 years ago, and what is more interesting, many of these stones bear the masons' marks of the builders. These remains show that the circular nave was 64 feet in diameter; its floor was 4 or 5 feet below the floor of the choir and 8 feet above that of the crypt."

The accompanying illustrations are from this work, kindly lent by the authors.

M. Kæmpfen, having resigned his position as a director of the Louvre, has presented a painting by Rembrandt as a memorial of his term of office, to the galleries.

NOTES AND COMMENTS.

Anatolia, or Asia Minor, although it could be reached from Greece with little difficulty, was for a long time neglected by travellers and architects. It is only within a comparatively late period that the value of the ruins to be found there was appreciated. It was not realised that they were a development of the Greek style; sometimes, no doubt, under unfavourable conditions, but interesting as evidence of the liberty allowed in treating principles which at a later date were thought to be unalterable from their first appearance. We are indebted to the commissions sent out by the French Government for much of the present knowledge on the subject. MM. Rayet and A. Thomas were enabled to reveal the peculiarities of some of the interesting buildings. The Germans consider themselves to be more indebted to the late Herr Humann, the architect, who may be said to have sacrificed his life in his efforts to rival the Frenchmen. He seems to have been first employed in the exploration at Pergamon, and he enriched the Berlin Museum with examples of sculpture and architecture which are of great value. From 1890 to 1893 he was occupied among the ruins of Magnesia-ad-Meandrum. Then he undertook work at Priène and Miletus. He died in 1896. A paper on his work was recently read before the Architects' Society of Berlin, from which it appeared he met with most success in Magnesia. Although it had historic importance as the last refuge of Themistocles, and where, after his suicide, a great monument was erected to his memory in the market-place, yet the remains of the city were neglected. In it was a temple dedicated to Artemis, which was renewed about three centuries before our era. There were other temples and a theatre. Humann was able, by means of photography, to show what remained. Much of the work is credited to Hermogenes, to whom is applicable what Carlyle said of Gibbon, for he was "the splendid bridge connecting the old world with the new," or, in other words, carried Greek traditions to Imperial Rome. Vitruvius relied on him for many of his statements about ancient architecture.

The exhibition of *objets d'art* in the French Salons is not without risk. Pictures and statues are with difficulty removed, and if carried through the streets of Paris would be likely to cause the agents to interfere. But works in the precious metals can be carried off without detection. The two Salons of Paris, as our readers are aware, now occupy the same building—the Grand Palais. In the exhibition of the Société Nationale a thief concealed himself under a table, then in the night, when he had the place to himself, he emerged. He took possession of a fine ring, two medallions, a silver-gilt cup and a book-cover. He attempted to seize a valuable collection of jewellery, but the noise he made in breaking open the case summoned the three agents to whom the exhibition is confided. They were unable to master him, and one of them ran to the rival exhibition for further help. Only two guardians were there, and one declined to leave his post. It was with great difficulty the four agents subjugated the robber. He appears to be a man of superior education, and under assumed names has written various works.

All who may expect to design hospitals, or to alter old buildings, will do well to study the shilling pamphlet on "The Meaning of a Modern Hospital," by Dr. W. Bruce Clarke (London: Longmans, Green & Co.). The author is one of the surgeons to St. Bartholomew's Hospital, and the substance of the pamphlet was delivered in an address to the Abernethian Society of that institution. Dr. Clarke is candid, and admits that the best results of treatment have not always been obtained in hospitals. He sums up the desirabilities by declaring that "a good hospital, so far as its construction is concerned, may be summed up in two words—ventilation and sunlight." He would not have more than thirty beds in a ward, and would provide from 100 feet to 150 superficial feet of floor space for each patient. Wards which are too long are difficult to supervise, and we are told that a patient who is 150 feet away from the place of observation may quite easily be overlooked. Dr. Clarke is not in favour of the plenum system of ventilation. He says that the atmosphere of the Birmingham Hospital is not altogether agreeable to a stranger, and he doubts whether the results justify the outlay. Elsewhere he remarks, "the plenum system of ventilation will soon be relegated to the limbo of obscurity." The outside air he considers to be, for all practical purposes, quite pure enough even for surgical demands. The fouling of the air of a building is ascribed to the human beings who inhabit it, and the largest proportion of the uncleanliness is derived from human breath. Dr. Clarke, it will be noted, is a plain speaker, and his opinions should be attentively considered by architects.

At the annual general meeting of the members of the Manchester Society of Architects the following officers and members of Council were elected:—President, Mr. J. W. Beaumont; vice-presidents, Mr. A. W. Royle and Mr. John Eaton, C.B.; hon. secretary and treasurer, Mr. Paul Ogden; assistant hon. secretary, Mr. George Browne; members of Council—Fellows, Professor S. H. Capper, M.A., John Ely, Edward Hewitt, Jesse Horsfall, A. H. Mills, J. D. Mould, Isaac Taylor, John H. Woodhouse, P. S. Worthington, M.A.; Associates, A. E. Corbett, J. H. Gibbons, Godfrey Colles.

It is remarkable how vague are the definitions in Acts of Parliament of all clauses relating to building. The Factory and Workshops Act, 1901, is in that respect no better than the London Building Acts or the Workmen's Compensation Act. According to it "the expression 'tenement factory' means a factory where mechanical power is supplied to different parts of the same building occupied by different persons for the purpose of any manufacturing process or handicraft, in such manner that those parts constitute in law separate factories, and for the purpose of the provisions of the Act with respect to tenement factories all buildings situate within the same close or curtilage shall be treated as one building." But is the mechanical power to be supplied from one source or from several? A special case, which came before the Lord Chief Justice, Mr. Justice Wills and Mr. Justice Kennedy turned on that point. Mr. Brass, the builder, owns premises in Old Street and Goswell Road, consisting of three floors and a basement. A part was let by him to a paper-cutting company having machines worked by a gas-engine. Another part was let to makers of cardboard boxes using machines driven by a steam-engine. The rest of the premises was utilised by Mr. Brass as a store, and there was no need for motor power. The County Council served notice on the owner that the building was one factory, and was unprovided with the requisite means of escape in case of fire. For the County Council it was contended that the definition did not mean there must be a common source for all the motive power employed. The Lord Chief Justice experienced great difficulty in arriving at a decision. He thought that the Legislature, in defining "tenement factory," had in their minds the ordinary case of several small factories receiving their mechanical power from some common source. In his opinion, in order to bring a building within the definition of a tenement factory, it was necessary that mechanical power should be supplied to different parts of the building occupied by different persons from one source. As there was no common supply the question must be answered in favour of Mr. Brass. Mr. Justice Wills said he could not accept the County Council's decision of a tenement factory. Mr. Justice Kennedy asserted it was impossible to read "tenement factory" as it should be read unless greater effect was given to the word "supply."

It is not often the Chancellor of a diocese makes an order for the demolition of a church in a cathedral city because it is dangerous to the public. The church of St. Martin in Chichester is now under a sentence of that kind. It is so close to the cathedral there is a belief it one time served as a chapel of ease. A chapel of St. Martin is mentioned as existing in the thirteenth century. The building which is about to be removed is only a hundred years old, for it was erected about 1803 at a cost of 1,700*l*. It is doubtful whether any part of the original structure has survived.

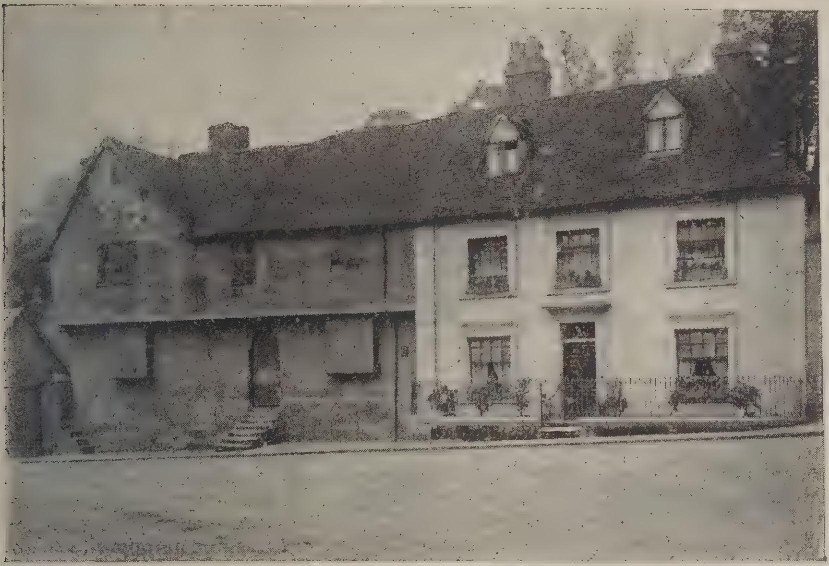
ILLUSTRATIONS.

STRATHBRAAM, SHILLINGFORD.—TOP LANDING—THE HALL.

HOUSES IN MILL STREET, WARWICK.

PICTURESQUE Mill Street, Warwick, has many charming old half-timbered houses, and the two here described are next the gateway of the historic castle, and have recently been restored and partly rebuilt.

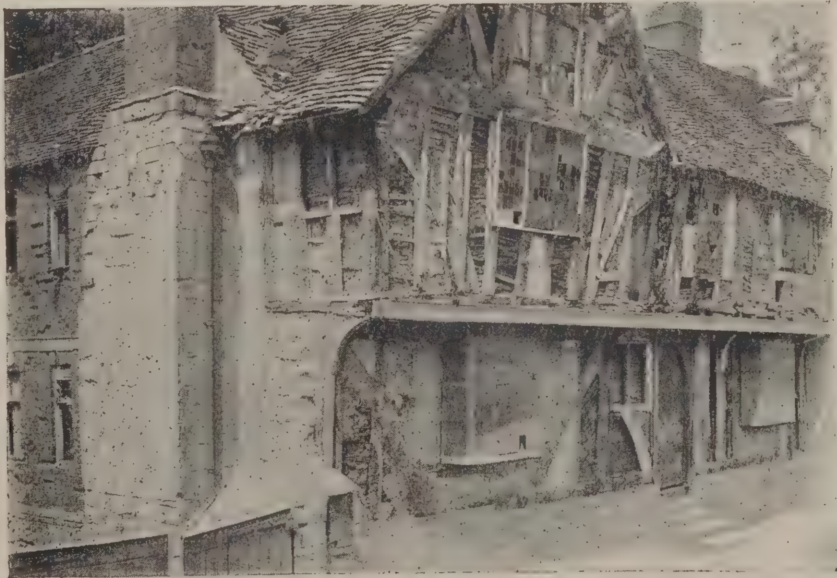
The house nearest the castle entrance has only been refronted, the Early Victorian stucco and sash windows removed, and oak-framed windows filled with leaded lights and rough-cast walls substituted.



Houses in Mill Street, Warwick, 1902, before Restoration.

The other house was entirely covered with rough-cast, which on removal was found to hide fine old oak half-timbering; this has been carefully restored and exposed in its original position wherever possible. The date is probably the latter end of the sixteenth century, and the old house has a history of its own. The stables, a horse-block and iron sign stay outside were used in connection with a famous old hostelry opposite, known as the Mattock and Spade or Gravedigger's Arms, from its proximity to the churchyard; it later became a day-school and was known as such to living memory. Being unoccupied for some forty years, the roof had let the wet in, and internally it was found in bad preservation, and the greater part was entirely rebuilt; the existing ingle-nook in the old kitchen is retained in the study, and all beams, &c., have been utilised and exposed where possible. Some fifteen coins were found during the pulling-down, the earliest being a penny of 1692; also a very ancient pair of spectacles with gutta-percha rims. The fine old oak and elm staircase was too far decayed for refixing, but the new oak one has been carefully carried out on the old model, and certain balusters, &c, reused.

The principal window frames are in solid, squared oak and all are filled with leaded lights, the casement handles for which are in wrought-iron and carefully modelled from the beautiful design of the old ones, whilst the doors and mouldings are similar to and in keeping with those which had to be removed. The front stands on natural rock, and the same local stone is used as a plinth. Rubbed and gauged arches from Messrs. Lawrence, of Bracknell, form the heads to windows and doors of back and sides, wherever the building is carried out in brickwork. The staircase gable is in half-timberwork, as was the old one. The rain-water heads were modelled in lead with the Warwick crest—a swan. Three old Tudor mantelpieces in stone were found on the upper floor, and one of these has been retained for the largest bedroom. The ceiling of the upper floor in the old house was found to be of concrete 2 inches in thickness.



Houses in Mill Street, Warwick, 1902, Showing the Oak Timbering Exposed.

The old stables have been partly converted into the necessary out-houses, &c.

Henry Hope & Sons, Ltd., of Birmingham, supplied the steel window casements and lead glazing, and also copied the old casement handles. The principal grates were supplied by Geo. Wright, of London, and the red unglazed hexagon tiles for hall, &c., by Martin van Straaten & Co. Jackson Bros., of Warwick and Leamington, and Talliss, of Warwick, made the doors and window frames.

The rebuilding was carried out by the estate workmen, under the direction of Mr. C. M. C. Armstrong, architect, of Warwick, and Mr. H. G. Godfrey Payton, the agent.

THE KNOLF, BOURNEMOUTH.—THE HALL.

WINDYATES, BOURNEMOUTH.—HALL AND STAIRCASE.

CATHEDRAL SERIES.—CHESTER: VESTIBULE TO CHAPTER-HOUSE—WINDOW AND DOOR AT SOUTH END OF WEST AISLE OF SOUTH TRANSEPT.

THE LAW OF ANCIENT LIGHTS.

On Monday judgment was given in the House of Lords in the great case Colls *v.* Home and Colonial Stores, Ltd., which for a year has been before the Courts, and for the second time before the House of Lords. The question to be determined was whether the owner of a dominant tenement continues to be entitled to the same amount of light as existed before a servient tenement was erected, or to an amount that would generally be considered as adequate. The decision, it will be seen, was in favour of the latter theory.

The action was brought by the Home and Colonial Stores against Mr. Colls to restrain him from erecting a building in Worship Street, Finsbury, in such a way as to obstruct their ancient lights. The building in question was opposite the premises of the respondent company, and was erected on the site of old buildings which had been pulled down. It was proposed to erect it to the height of 42 feet, the old buildings it replaced being 19 feet 6 inches in height. The company complained that the erection would seriously darken and obstruct their ancient lights. To that the appellant replied that the amount of light which would be left would be sufficient for the use of the company's premises for ordinary trade. Mr. Justice Joyce held that though the new building would deprive the company of a substantial amount of light, causing them real damage, enough light would still be left for the ordinary purposes of the occupancy of the premises as a place of business, and its selling and letting value would not be affected. The company was therefore not entitled to an injunction.

The Court of Appeal reversed this judgment and ordered Mr. Colls to pull down the buildings which obstructed the company's ancient lights, but suspended the mandatory part of the order so that appeal might be made to the House of Lords.

The Lord Chancellor said :—In this case, which was tried before Mr. Justice Joyce, the learned judge gave judgment for the defendants upon the ground that the plaintiff had failed to prove an actionable wrong, although he found that the erection of the buildings of which the plaintiff complained had appreciably diminished the light which the plaintiff had previously enjoyed. The Court of Appeal, as I understand their judgment, thought this was wrong, and ordered a mandatory injunction to pull the premises down so as to restore all the light that had been previously enjoyed. If this principle should be sanctioned by your lordships, it would be for the first time that, in this House at all events, such a principle had been determined. My Lords, I do not deny that authorities may be found for it, some of which have been cited at the bar; but I do not think that the exact question which is now in debate has ever been brought before this House until now. The question may be very simply stated thus. After an enjoyment of light for 20 years, or if the question arose before the Act for such a period as would justify the presumption of a lost grant, would the owner of the tenement in respect of which such enjoyment had been possessed be entitled to all the light without any diminution whatsoever at the end of such a period? My Lords, if that were the law it would be very far-reaching in its consequences, and the application of it to its strict logical conclusion would render it almost impossible for towns to grow, and would formidably restrict the rights of people to utilise their own land. Strictly applied it would undoubtedly prevent many buildings which have hitherto been admitted to be too far removed from others to be actionable; but if the broad proposition which underlies the judgment of the Court of Appeal be true, it is not a question of 45 degrees, but any appreciable diminution of light which has been enjoyed (that is to say, has existed uninterruptedly for twenty years) constitutes a right of action, and gives a right to the proprietor of a tenement that has had this enjoyment to prevent his neighbour building on his own land. My Lords, I do not think this is the law. The argument seems to me to rest upon a false analogy, as though the access to and enjoyment of light constituted a sort of proprietary right in the light itself. Light, like air, is the common property of all, or, to speak more accurately, it is the common right of all to enjoy it, but it is the exclusive property of none. If the same proposition against which I am protesting could be maintained in respect of air, the progressive building of any town would be impossible. The access of air is undoubtedly interfered with by the buildings which are being built every day round London. The difference between the town and country is very appreciable to the dweller in cities when he goes to the open country or to the top of a mountain or even a small hill in the country, but would the possessor for twenty years of a house on the edge of a town be at liberty to restrain his neighbour from building near him because he had enjoyed the free access of air without buildings near him for twenty years? No doubt this is an extreme case, but it is one of the extreme cases which tries the principle. The truth is that, though there were objections to ask a jury whether the enjoyment *talis qualis* was such that they might presume a lost grant when nobody supposed that such a grant was ever really made, yet it gave the opportunity of considering what was the extent of the supposed grant, and if anything so extreme as I have just supposed were claimed no jurymen in their senses would have affirmed such a grant. The statute upon which reliance is placed in this case illustrates the danger of attempting to put a principle of law into the iron framework of a statute. The statute literally construed by the use of the words "the light" would mean all the light which for twenty years has existed in the surroundings of the tenement which has enjoyed it; yet, singularly enough, there has been a complete uniformity of decision upon the construction of the statute that it has made no difference in the right conferred, but is only concerned with the mode of proof; but though I quite concur with this construction, which is supported by an overwhelming body of authority, yet I cannot but think the language of the statute has led to some of the decisions which your Lordships are now called upon to review. Certainly, in the older decisions which have been brought to your Lordships' notice in Mr. Bray's very able argument the proposition which, as I have said, underlies the judgment now under appeal finds no place. Lord Hardwicke, long ago in 1752, dealing with this very question, the alleged obstruction to light, laid down what I believe to be law to-day. "It is not sufficient," he said, "to say that it will alter the plaintiff's light, for then no vacant piece of ground could be built on in the city, and here there will be 17 feet distance, and the law says it must be so near as to be a nuisance." Lord Cranworth adopted the same test, and his observation, though a subsequent decision of his seemed to throw doubt upon it, has received the assent of some of the most learned judges who ever sat upon the English Bench. I think that the whole subject has been confused by certain decisions which were dependent on the facts proved, and were incautiously reported as laying down principles of law, when they were, in my view, only intended to be findings of fact in that particular case. At all events, I am prepared to hold that the test given by Lord Hardwicke is the true one, and I do not think a better example could be found than the present case to show to what extravagant results the other theory leads. The owner of a tenement on one side of a street 40 feet wide seeks to restrain his opposite neighbour from erecting a room which, when erected, will not then be of the same height as the house belonging to the complaining neighbour, and the only plausible ground on which the complaint rests is that on the ground floor he has a room not built in the ordinary way of rooms in an ordinary dwelling-house, but built so that one long room goes through the whole width of the house to a back wall which has, however, no windows at the back or sides, and which was, therefore, at the back of it, too dark for some purposes without the use of artificial light even before the building on the other side of the street was erected. I think that no tribunal ought to find as a fact that the building is a nuisance; and altogether apart from the inappropriateness of the remedy by injunction, I am of opinion that the plaintiff has no cause of action against the defendant. The test of the right is, I think, whether the obstruction complained of is a nuisance; and, as it appears to me, the value of the test makes the amount of right acquired depend upon the surroundings and circumstances of light coming from other sources, as well as the question of the proximity of the premises complained of. What may be called the uncertainty of the test may also be described as its elasticity. A dweller in towns cannot expect to have as pure air, as free from smoke, smell and noise as if he lived in the country and distant from other dwellings, and yet an excess of smoke, smell and noise may give a cause of action, but in each of such cases it becomes a question of degree, and whether in each case it amounts to a nuisance which will give a right of action. My Lords, I have not thought it necessary to enter into a discussion of the authorities, because I think it has been most carefully and accurately done by Mr. Justice Wright. Of course, my Lords, it must be taken that the foundation of this judgment rests upon the finding of fact by Mr. Justice Joyce that the buildings of the defendant had not so materially interfered with the light previously enjoyed by the plaintiff as to amount to a nuisance. It follows that, in my judgment, the case of Warren *v.* Brown was rightly decided by Mr. Justice Wright, and ought to have been affirmed by the Court of Appeal. It was, however, reversed in accordance with the same views which guided that Court in the case now under review. For the reasons I have given I have to move your Lordships that the judgment of the Court of Appeal be reversed and the judgment of Mr. Justice Joyce restored, and that the respondents do pay to the appellant the costs both here and below.

Lord Macnaghten, in agreeing, after reviewing various decisions from the time of Lord Coke, said he considered the most satisfactory statement of the rule was that of Chief Justice Best in Back *v* Stacey. The jury were told that they were to judge rather from their own ocular observation than from the testimony of any witnesses, however respectable, of the degree of diminution which the plaintiff's ancient lights had undergone. It was not sufficient, to constitute an illegal obstruction, that the plaintiff had in fact less light than before, not that his warehouse, the part of his house principally affected, could not be used for all the purposes to which it might otherwise have been applied. In order to give a right of action and sustain the issue there must be a substantial privation of light, sufficient to render the occupation of the house uncomfortable, and to prevent the plaintiff from carrying on his accustomed business (that of a grocer) on the premises as beneficially as he had formerly done. His Lordship added that it might be difficult to draw the line, but the jury must distinguish between a partial inconvenience and a real injury to the plaintiff in the enjoyment of the premises. Lord Macnaghten said he often wondered why the Court did not more frequently avail itself of calling in an experienced surveyor to report on such questions. The Court ought to be very careful not to allow an action for the protection of ancient lights to be used as a means of extorting money. Often a person who is engaged in a large building scheme has to pay money right and left in order to avoid litigation, which will put him to even greater expense by delaying his proceedings. There is quite as much oppression on the part of those who invoke the assistance of the Court to protect some ancient lights which they have never before considered of any great value as there is on the part of those who are improving the neighbourhood by the erection of buildings that must necessarily to some extent interfere with the light of adjoining premises.

Lord Davey also upheld the decision of Mr. Justice Joyce. The noble and learned lord said he was of opinion that the Courts had gone too far and had imposed undue restrictions on persons in the exercise of their lawful right to build on their own land. His conclusion was that the owner or occupier of the dominant tenement is entitled to the uninterrupted access through his ancient windows of a quantity of light, the measure of which is what is required for the ordinary purposes of inhabitancy or business of the tenement according to the ordinary notions of mankind, and that the question for what purpose he has thought fit to use that light, or the mode in which he finds it convenient to arrange the internal structure of his tenement, does not affect the question. The actual user will neither increase nor diminish the right. The single question in these cases is still what it was in the days of Lord Hardwicke and Lord Eldon, whether the obstruction complained of is a nuisance. The experience of surveyors who are practically conversant with this matter is entitled to great respect. As Mr. Vigers states in his evidence, they have adopted a working rule for the purpose of advising those who consult them and settling differences by negotiation. The rule of 45 degrees is not, of course, a rule of law, and is not applicable to every case.

Lord Robertson and Lord Lindley agreed.

ART EDUCATION IN EDINBURGH.

THE Lord Provost's committee of the Town Council have adopted the following memorandum, which has been concurred in by the Governors of George Heriot's Trust, regarding the new arrangements for art and art education in Edinburgh, with reference to the recent report by the departmental committee, concurred in by the Governors of George Heriot's Trust.

1. The Board of Manufactures, as at present constituted, should be replaced by a new and smaller Board of a more representative character. Such new Board (herein referred to as "the Board") should consist of fifteen members, including as constituent members *ex officiis* the Lord Provost of Edinburgh, the Principal of the University of Edinburgh, the President of the Royal Scottish Academy, the President of the Society of Antiquaries of Scotland, the President of the Royal Society of Edinburgh and the Chairman of the Heriot-Watt College committee. The members, other than the *ex officio* members, should hold office only for a limited term. It might be desirable, in order to secure elasticity, to provide that retiring members should be out of office for a year before being eligible for re-election.

2. The Board should annually nominate and appoint a committee consisting of say eight of their own members (of whom the President of the Royal Scottish Academy should always be one) and eight other persons not members of the Board (of whom two should be nominated on the recommendation of the Town Council, two on that of the Royal Scottish Academy, and one on that of the Governors of the Heriot-Watt College). To such committee the Board would delegate the management and ordinary administration or control of the School of Art.

3. The sum of 2,000*l.* per annum payable to Scotland under article 15 of the Treaty of Union should be paid to the Board, apart from any provision or vote by Parliament.

4. A new building should be erected or acquired for the National Gallery on a different site from the present, and the cost thereof should be met by a grant from the Imperial funds with a contribution from the Board's accumulated funds.

5. The present National Gallery buildings on the Mound should be appropriated to the use of the Royal Scottish Academy, subject to such temporary use by other parties as may be sanctioned by the Government The structure of the buildings should either be kept up by the Board or be transferred to His Majesty's Board of Works and kept up by the latter.

6. There should be included in the parliamentary votes of each year sums payable to the Board for the purposes of the National Gallery, National Portrait Gallery and Museum of Antiquities, in respect of salaries and wages, purchase of pictures and other articles, travelling, incidental expenses, buildings, fuel and light, and rates similar to the votes passed for the National Gallery of Dublin. In the first instance, following the recommendations of the departmental committee on this head, there should be included in the parliamentary votes as early as possible the following sums, viz :—

For the National Gallery.—Salaries, 1,200*l.* ; upkeep, &c., 700*l.* ; purchase of pictures, 1,000*l.*—2,900*l.*

For the National Portrait Gallery.—Salaries, 400*l.* ; purchase of portraits, 200*l.*—600*l.*

For the Museum of Antiquities.—Salaries, 200*l.* ; purchase of articles, 200*l.*—400*l.*—3,900*l.*

7. (1) The Royal Scottish Academy, in consideration of the provisions in their favour, should hand over to the Board, for the Scottish National Gallery, the collection of pictures belonging to the Academy at present in the gallery, valued at 40,000*l.* (2) There should be included in the annual parliamentary votes a sum of 300*l.*, payable to the Royal Scottish Academy.

8. Application should be forthwith made by the proper parties to the Treasury for a grant of money to the National Gallery, equivalent to the value of pictures which have been presented or bequeathed to the gallery, in so far as no equivalent has as yet been paid in respect of these ; and in future a similar application should be made annually for the equivalent of gifts or legacies during the year.

9. (1) The School of Art in Edinburgh, belonging to the Board and managed by the committee, appointed as aforesaid, should incorporate the present Academy Life School ; and the aim of the school should be to provide advanced instruction in the arts of painting, sculpture and architecture. The work of teaching art as applied to industry, handicraft and technical instruction should be conducted, as hitherto, in the Heriot-Watt College by the Governors of George Heriot's Trust. (2) A new building should be as soon as possible erected or acquired for the School of Art on a suitable site in Edinburgh, the cost thereof being provided from the Imperial funds—so far as not otherwise met (3) The Board should be empowered to apply the annuity drawn under the Treaty of Union, or such part thereof as may be available, for the purposes of the said School of Art. (4) If, and as long as, the Town Council shall receive the residue grant from Parliament, application should be made to them for a vote therefrom to the Board for the purposes of the School of Art. In the event of the residue grant being withdrawn by Parliament, provision should be made in the new parliamentary arrangements for the application of an adequate portion of the money to the purposes of the Board's School of Art.

The committee resolved to recommend the Town Council to adopt the memorandum, and should it be adopted it will thereafter be forwarded to the Secretary for Scotland.

GLASGOW INSTITUTE OF FINE ARTS.

A RECEPTION in connection with the forty-third annual exhibition of the Royal Glasgow Institute of the Fine Arts was held in the New Galleries, Sauchiehall Street, by the president, Sir John Stirling-Maxwell, M.P. He congratulated the Institute upon the success which had marked their arrival in the new galleries, a success which extended, he thought he might safely say, to every branch of their work—the quality of the exhibition, the size of the rooms in which they were showing their work, the comfort of those rooms, and the approbation which the public had shown by coming to them, and also by purchasing pictures. He thought, when the growth and life of the city was reckoned, it was satisfactory to think that that growth also extended to the success of art in their midst. Those rooms, which had been so successful in their own line, were that afternoon the scene of the inauguration of another movement directly in the same line—he meant the proposal which had been made to found in Glasgow a Society whose object it would be to acquire works of art by modern painters for the galleries of Glasgow. The gentlemen who had met there had come to the conclusion that it was worth while to found such a body, and give Glasgow the sort of organisation which already existed, he believed, in almost every city of any consideration on the Continent of Europe. He hoped that that Society, founded on the modest basis of a small subscription, which would go towards buying pictures for the Corporation galleries, might prove a great success, and that many who came there to admire works of art and many who went to the galleries in Kelvin Grove to see the works of earlier painters would join that Society in order that they might feel that they were not only enjoying its privileges, but were also contributing towards conferring the same advantages on other people.

Sir Samuel Chisholm said if there was a subject upon which it would be possible for Sir John Stirling-Maxwell to say a superfluous word, assuredly that subject was not that of art. It must be a matter for congratulation, and it was a matter of very great congratulation to the citizens of Glasgow to know that in their midst there was a distinguished citizen like Sir John who was so thoroughly interested in art, and so able adequately to explain his views thereon. He was sure the Fine Arts Institute was also greatly to be congratulated on having such a president as Sir John. He was no mere figure-head, adorning the front page of a syllabus, but one who was actively interested in the subject of art, and especially in the development of art in the midst of our industrial population, and in the uniting together of civic enterprise with art culture and development.

DURHAM ARCHITECTURAL SOCIETY.

THE annual meeting of the Archæological and Architectural Society of Durham and Northumberland for the selection of places to be visited during the ensuing year, and for the transaction of other business, was held in Bishop Cosin's Library, Palace Green, Durham, on the 27th ult.

The president, Dr. Greenwell, gave a brief sketch of the places visited during last year, limiting his remarks under this head because he had a good deal to say about Durham Castle and the interesting discovery in the neighbourhood of Durham. This he made a pretext for an interesting discourse on the prehistoric characteristics of the county of Durham. He then proceeded to say that a great deal had lately been discovered in connection with Durham Castle. Originally there were three wells in the castle, but the position of none of them was known until quite lately, when one of the wells was accidentally discovered, not in the centre of the quadrangle, but towards the north side of the quadrangle. It went down to a depth of nearly 40 feet, where it tapped a stratum of water which ran through the whole of the plateau on which the castle and the cathedral were built. Had they been favoured with the presence of geologists, he would have turned their attention to this fact. It was a very abundant and unfailing source of supply of the most excellent water. They would remember there was a well in the quadrangle of the cloisters and another at the west end of the cathedral. They were the same water and found at the same depth. How did this water come there? It was to be found in the whole area on which the cathedral and castle were built. There was not sufficient surface water for such a supply, because this at once ran off into the river. The greater portion of the plateau was covered with buildings, and those parts which were not were paved, so that any water ran off at once down to the river. It was interesting to notice that on the opposite side of the stream, at the same level, there was a similar supply of water. There was no doubt that the supply of water on the other side of the river came from the high ground to the west of it That somehow or other it then descended underneath the river, and rose up again to its own level on the opposite side, about 40 feet, as he had said, below the plateau on which the castle and cathedral were built. That seemed the only reasonable method of accounting for it. The President commented on the fact that every house in the Bailey had a well, and analysis had twice proved that it was a most excellent water and absolutely pure, and nothing better could be desired for domestic purposes, and he was surprised that people did not use more of it. The finding of this well was one of the discoveries at the castle. Another was a rather interesting little bit of arcading at the south-western corner of the great hall of Bishop Pudsey. He thought this represented a little ornamental cornice of a small tower at that corner, as there was another tower at the north-west corner of the hall. He now wished to say something about the hall itself. It was built by Bishop Pudsey. There was a building on the spot before his time, possibly part of the castle built by William the Conqueror, who, after the murder of his lieutenant, Comyn, in the house of the bishop, finding there was no defensive place in Durham, and that the country was in a very disturbed condition, on his return from Scotland built the Castle of Durham. Of this he had no doubt whatever that the old chapel was a part. No doubt there were other parts of William's castle still existing. Probably that part of the castle burned down in the early part of Pudsey's reign was part of the original castle built by William. However, that was replaced by the present building, true in a modified form, but still possessing a great many of the original features of William's castle. It was always supposed until late years that there were two halls divided by a floor, the great hall of the bishop himself, and the hall of his constable—the hall above it. Lately the suggestion has been thrown out that, as in some other castles, there was no division; that there was simply one great hall. He (the President) did not concur in that, and for this reason. First of all, he scarcely thought there would be such an arcade, so elaborate an arcade, a so very richly decorated arcade, upon each side of the upper part of the hall, so far removed from sight as it would have been from the base of the lower hall. There was a strong presumption that such a thing would not have been done. But then they had got a staircase leading up from the lower hall to the upper, and there was a grand doorway into the lower hall, a very elaborate and as beautiful a specimen of middle twelfth-century work as could be seen anywhere. At the side of this there was another doorway, which led to a newell staircase opening out on to the floor of the upper hall. Had there been no upper hall at all he did not see any occasion for this staircase. Then he believed there was another staircase because they found some two years ago a lower part of a staircase near to where the bishop's rooms were, and which seemed to lead up to a kind of upper part of the hall. He had no doubt himself that this was really the back stairs to the upper hall, and was used by servants to go to the upper hall, just as the constable and officials went by the other staircase. He believed the passage, of which a small portion had been opened out, went to the kitchens. All this led to the presumption that there were two halls and not one. However, that would be more fully entered into by Mr Hodges when they met at the castle. He believed the chapel was a portion of William's building, and until the keep was built was absolutely perfect. The sculpture upon the capitals was as fresh as the day when carved Unfortunately, in order to get access to the keep they made a passage by which they destroyed one of the east windows of the chapel and thus created a draught. That draught had done a very great deal of mischief, and had absolutely destroyed one or two of the capitals. The capital of greatest interest, which depicted a hunting scene, a very interesting and valuable specimen of the sculpture of that day, very fortunately remained intact. He was very glad to know that Dr. Gee had set his heart upon blocking up the staircase, making a new way to the keep, by which all that kind of mischief would be prevented and further decay arrested. That would be really a most excellent work, and could be carried out at no very great expense, and without doing damage of any kind, would prevent damage from accruing, which, if it went on, would end in the destruction of the whole edifice of that very interesting building. Then there was a matter of very considerable importance in regard to the Norman Gallery. The Society, he was glad to say, had protested over and over again about the use of the gallery for rooms for students. He had no doubt that had this been continued some day the castle would have been burnt down. They had had two great fires at the castle, which had originated in the rooms of students. Fortunately both of these fires occurred in a part of the building cut off from the rest of the castle by a very thick stone wall. Hence they were able to confine the fire to the block in which it originated. But if a fire broke out in the Norman Gallery the whole castle would be destroyed. There would be nothing to save it. The great staircase would go, the whole of the rooms, the common and senate rooms and the great hall could scarcely escape. In fact, he did not think it was possible for anything to escape destruction, and it was a very fortunate thing indeed that the rooms had been taken away, and he hoped would never be restored. There were plenty of rooms in other parts of the University in which to lodge students. The University was possessed of a very large quantity of property in which students could be housed, and he was glad to think there was no chance of the Norman Gallery being brought back to its former condition. But it was in a very lamentable state. There had been a terrible shrinking of the wall on the south side, and he thought it was only due to the building of Tunstall's Gallery, which acted as a kind of a buttress, that the whole had not fallen out. It was absolutely necessary something should be done, and he was quite sure the University authorities would prevent any destruction. They were most anxious to do what they could. In fact, he knew they had taken the advice of an eminent architect, but at the same time he did not think the advice of an eminent architect was quite the advice he would have selected. He thought what they wanted was the advice of an engineer, and not of an architect, because it was purely a matter of engineering. The opinion of a good, practical builder would have been worth the advice of all the architects in the country. He meant the opinion of such a man as Mr. Thompson, who was so much connected with Peterborough. He had had to do with a building in a most precarious condition, and the work was admirably done. There was no better man in England to have consulted in this matter, and he was much surprised that the

Senate of the University did not consult a man like that rather than an eminent architect like Mr. Jackson, who was an artist and not an engineer. He hoped the Senate would think fit and take the advice of some man competent to give an opinion upon the purely engineering aspect of the work.

The meeting terminated with a vote of thanks to the President for his address.

DISCOVERIES IN CRETE.

THE following letter recently appeared in the *Times* from Mr. G. A. Macmillan:—I have to-day received the following telegram from Mr. Arthur Evans, which I think will be of interest to your readers:—

On headland north of Knossos, commanding land and sea, [have] unearthed remains great stone mausoleum. Square chamber rising to lofty gable on cyclopean plan with arched entrance passage, though ruined above and much quarried into. Unique monument of its kind. Has taken sixty men fortnight to clear *débris*. Cist grave found in one corner below floor. Nearly all metal objects removed in ancient times, but many scattered relics left. Repeated clay impressions [of] royal signet. Painted jars fine palace style. Carved stone lamp [? with] crystal pommel; Egyptian basalt bowl; many alabastra; Egyptian necklace lapis lazuli with pendant figures. Grave probably of one of last Minoan kings. Place for others never occupied. This great monument possibly represents traditional tomb of Idomeneus. New possibilities opened up, but funds much needed. Other work progressing. [Ends.]

Even the necessary condensation of a telegram makes it clear that Mr. Evans, with his usual good fortune, has made another startling discovery, which, if it can be followed up, may yield results of the highest importance. But everything depends upon the provision of adequate funds, and I am sorry to say that these are still to seek. You were good enough to print a letter from me some weeks ago, in which I stated that about 1,500*l.* would probably be required for Knossos during the present season beyond the sum already in hand, and I mentioned also that the managers of the Cretan Exploration Fund were anxious to devote 500*l.* this season to the very important excavation which is being conducted at Palaiokastro, in Eastern Crete, by members of the British School at Athens. The response to this appeal has been very disappointing. Towards the general fund less than 200*l.* has been received since the date of my letter (including 100*l.* generously given by Mr. Charles Morrison), and 100*l* has been given specially for Palaiokastro. Mr. Evans's telegram makes it clear how urgently funds are needed to carry on the work at Knossos, so rich in promise. There is a special reason, on the other hand, for doing all that is possible at Palaiokastro during the present season, in the fact that three quite exceptionally competent students—two of them already familiar with the site—are now available for the work of superintendence, and this is hardly likely to be the case another year. Mr. Evans and Mr. Hogarth, who have recently visited it, both strongly confirm the view taken by Mr. Bosanquet, the director of the school, as to the importance of the site, and the probable results of its full excavation. So far, scarcely a third part of a large præ-Mycenæan town has been uncovered, and even so the evidences of a high state of civilisation are abundant. To make the best use of the opportunities of the present season at Palaiokastro it is estimated that at least 700*l.* will be required. Towards this the school cannot, with all the other claims on its resources, provide more than 200*l*, and 200*l* (including the 100*l.* earmarked by a subscriber) has been granted from the Cretan Exploration Fund. Another 300*l* therefore is required for this purpose, and not less than 1,300*l.* for Knossos beyond the sum already expended or in hand.

All the arguments in favour of supporting British explorers in this fruitful and honourable field of research have been urged already, and I will not weary your readers by reiterating them. I can only hope that the facts I have briefly stated will speak for themselves.

THE MILLNS COLLECTION.

THE collection of oil-paintings, miniatures, water-colour drawings and engravings bequeathed by Mr. Richard Godson Millns, of Abbey Road, St. John's Wood, to the Nottingham Art Gallery and Museum has arrived in the city. The original estimate of the worth of the pictures was variously placed at between 7,000*l.* and 10,000*l.*, but there is every reason to believe that their value amounts to 15,000*l.*, or even more.

Mr. Millns, says the *Nottinghamshire Guardian*, who was sixty-nine years of age, was a native of Lynhurst, near Mansfield, and his bequest came as a great surprise to the Nottingham City Council in view of the fact that he had no close connection with the city. He left Lynhurst about thirty years ago and settled in London, and, having ample private means, he devoted most of his attention to purchasing works of art whenever he found an opportunity, this being his sole hobby. The result was that he got together a collection of which he was very proud. He took great care of the works he acquired, and they come to the Art Gallery at the Castle in perfect condition. The collection is of undoubted educational and historical value. The British school of painting is represented by excellent examples of many artists, and in this respect especially the series will prove a great acquisition to the permanent collection. To a certain extent the remark applies also to the representatives of the Dutch school. For the most part the pictures are not large, but they improve upon examination. The works of George Morland are more numerous than those of any other painter, being thirteen in number, and they are beautiful examples of his work, rich in colour and fine in quality. Twelve pictures are by J. Flaxman, R.A., and five very interesting canvases are by Sir David Wilkie, R.A. James Ward, R.A., is represented by four very strong paintings, and one or two of the four from the brush of George Vincent are capital works. W. Harvey has also four representatives, whilst there are three each by W. Etty, R A., Smirke, R.A, W. Collins, R A., E. Bristow and T. S. Cooper, R A. Those of the latter and of W. Collins are noteworthy, and Etty's examples are of beautiful technique. F. Wheatley, R.A, J. Phillip, R.A., and T. S. Good are each represented by two works, and the collection also includes single examples of Sir A. W. Callcott, T. Stothard, R.A., J. C. Ibbetson, Angelica Kauffmann, R.A, J. S. Cotman, F. R. Lee, R.A., H. Morland, W. Hamilton, P. J. de Loutherbourg, R A., T. Barker, G. Dawe, R.A., H. D. Hamilton, R.H A, G. Chambers, W. M. Craig, J. Webb, H. Bright, W. Payne, J. M. Wright, D. Gardner, C. Collins, G. Barrett, R.A, S. Gilpin, R A., J. Lonsdale, G. Dance, R.A., R. Wilson, R.A., E. Bird, R.A, A. H. Corbould, H. O'Neil, A.R.A, Sam Bough, R.S A, G. Richmond, R A., W. Q. Orchardson, R A., George Smith, E. J. Nieumann, J. Opie, R.A, F. Zuccarelli, J. A. O'Connor, John Martin, J. W. Carmichael, G. Smith and L. Garctia.

Among the paintings of the Dutch school three by D. Teniers, jun., are conspicuously fine, and there are two of the very best examples of J. Wynants. They were lent by Mr. Godson Millns on the occasion of the Guildhall exhibition in 1902, and were then specially mentioned. H. Steenwyck, jun, has also two pictures, and so has K. Molenaer. All the others in this group are represented by one work, and those of M. de Hondecoeter, E. Verboeckhoven, A. Van der Neer, M. Withoos and P. Withoos are attractive. The other artists represented are A. Bloemaert, C. P. Begas, A. Pynacker, J. Lurgelbach, D. Teniers, sen, E Van Heemskerk, Van der Lys, Pieter Caddi, J. Ouwater, H. Van Balen and Jan Breughel, C. Lelienbergh and A. Palamedes.

Pieter Neefs and Old Franks, Pieter Jacob Horemans and P. de Saan represent the Flemish school, and F. de P. Ferg the German school, whilst one work is by an unknown artist, and there are five engravings.

An interesting feature of the collection is that it contains the portraits of several artists, these including J. T. Harding by Knight, Frith by H. O'Neil, and T. Allon. There are also portraits of W. Q. Orchardson and of Rossetti, but it is not known by whom the latter was painted. There is a portrait by J. M. Wright, one of Wm. Collins by C. Collins, and one of W. M. Craig.

There are fifteen miniatures in the collection, amongst the artists being Sir Wm. Ross, H. B. Bone, R.A., and J. Smart, whilst two French miniatures are by Fontallard. There is also a large collection of engraved portraits of artists.

Briefly summarised the collection contains 123 examples of the English school, thirty-one of the Dutch school, four of the Flemish school, two of the German school, and two which are unknown, making a total of 162. Then there are engravings of pictures in the collection to the number of 147, together with fifteen miniatures.

AMERICAN COUNTRY HOUSES.

A SPECIAL number of the American magazine published in Boston (Bates & Guild Co.), the *Architectural Review*, describes a series of typical country houses in various parts of the United States. At the present time there are doubts whether English or Italian models will be preferred. The following prefatory essay by Mr Robert D. Andrews, it will be seen, is in favour of the adaptation of English forms:—

Twenty-five years ago nearly all the better class of American country houses that were building were of a picturesque, romantic sort. The roofs were of a good steep slope, with dormers, and the masses of the house were broken and freely assembled. Field or local quarry stone was largely used for lower walls and chimneys, and shingles covered the upper walls and roof. The detail treatment given these houses ran from delicate Francis I. motives to the unmoulded forms of peasant dwellings, according to the taste of the architect or his client. Their plans were mostly free in conception and handling; the staircase was made a picturesque feature, often with a chimney-corner beneath it, and anything like formal symmetry was avoided. The grounds about these houses were treated in a like informal spirit, with curving driveways and masses of shrubs and flowers irregularly disposed. The general idea seemed to be to make the country house like the country—naturalistic, unconventional, local.

This mode of treatment was not confined to any one group of architects or to any one section of the country. The houses of McKim, Mead & White along the Long Island Sound and New Jersey shores were of this description, as well as those of Richardson and Emerson in New England; and what these leaders did was repeated by other architects all over the land, with infinite minor variations.

Since then a very decided change has occurred, especially in the case of the larger and more costly houses. They have departed from the picturesque type just described, and become more formal and stately in pretension. One element in this change has been a revival of interest in colonial history. The formation of numerous societies for the perpetuation of colonial associations and the display of colonial ancestries has quickened an interest in the architecture of that time. Western towns, which were yet undreamt of a hundred years ago, to-day have their colonial mansions as well as Cambridge and Charleston.

Another factor which has had great weight has been the influence of the French School of Beaux-Arts, to which our students have flocked in large numbers, bringing back with them a predisposition for formal types of planning and a technique based on the employment of Classical details. Still another factor, more powerful than either of the above, has been the sudden creation of a distinct wealthy class, seeking to emphasise their position by the erection of houses which should be different in character as well as in degree from the common type. Naturally the standards taken by them for imitation have been the palaces of the European nobility, which are for the most part formal in character; and the lead thus given by the "smart" set is widely followed, even by those who would deny their influence.

It is hardly necessary to give examples of this new plutocratic type of country house, for every student of the architectural journals can recall many to mind, and the visitor to Newport and Lenox may see them. The best of them are very beautiful and stately, and are doubtless in harmony with the life they shelter, which one suspects is related more to the continental than the English standard of what country life ought to be.

But it would be a great misfortune if the mass of our people were to forget the English ideal in their pleasure in formal gardens and symmetrical houses. Happily, there is no serious danger of this result. The amount of Latin blood in the American people is very small compared with that of the Teutonic or northern European races, and hereditary influences are more powerful and lasting than those of environment. The love of individual freedom and all that follows from it is stronger in us than the admiration which the French and their kindred people have for centralised power. Nothing is more interesting than to observe how the whole character of architecture and architectural landscape changes when one passes from France to England, or even into Holland. The French instinct is formal and monumental, and is shown in a hundred ways. It loves public ceremonies and displays, builds promenades for public meeting-places, accentuates the functions of its Government in every possible way, isolates and dignifies its public buildings by parks and fountains, regulates the height and design of private structures along city streets, clips the city trees to uniform size and shape, spends the public money for works of art and for the maintenance of the opera, and, in short, everywhere emphasises the communal interest above that of the individual. The same spirit is shown in the planning and disposition of separate buildings, which have only to be compared with those native to England to bring out as great a difference as that presented by the aspects of Paris and London. The quality of English architecture is essentially domestic. Even in its greatest buildings, its cathedrals, grace and charm are more conspicuous than monumental dignity. It is in its country houses and parish churches that the English genius finds its most typical architectural expression. If the glory of the city belongs to the Continent, surely the glory of the country is the heritage of England. That racial instinct that led Shakespeare to write "the ornament of beauty is suspect" has led the English builder to so unite his work with nature that it all seems like nature, upon which conscious ornamentation could but intrude. Art there is, and design; but its purpose is seemingly to bring man into harmony with the country rather than the country into harmony with man, which I conceive to be the Latin idea.

As the external masses of buildings are in harmony with their plans, it is not surprising that essentially different modes of planning are found in the two types of houses I am contrasting. The formal, continental method is to work upon a central axis, which is carried entirely through the whole composition of house and grounds. This is crossed by subordinate axes, which, in turn, are crossed by others, the point of crossing yielding symmetrical and balanced views in all directions. The square house with central hall, staircase opposite the door, and equal rooms with equal doors on either side suggests the type. Wherever possible, the central axis is emphasised and a bilateral uniformity preserved. The effect is formal and conventional

The typical English method is the opposite of this. There is no long-continued axis maintained anywhere. One moves from one door to another, one feature to another, by a path like that of the knight on a chess-board, first forward and then sideways. You "tack," as it were, from one point to another, like a sloop beating up against the wind. Enter the porch, and the door is at one side; enter the hall, and you must turn to look down it; its features of staircase and fireplace are somewhat withdrawn from immediate view and you must continue well down into the hall ere your destination is made certain. The lighting of the rooms by windows is concentrated and when you enter the room it has well-defined dark and light areas. The effect is like that of Dutch pictures, mysterious, appealing to the imagination, piquing the visitor to go on and explore to the end and then to return to some sequestered corner which you alone seem to have discovered. The sentiment of such a house is like a garden or wood, it is filled with reticences and consequent surprises; it is built for individual comfort and family life. Each room has but one door leading to it, and that so placed that it does not command the whole room.

You know from what point intrusion will come, if it comes at all. All the walls of the room are not punched through with windows, soliciting your attention to the external world. Your mind is left free for books or talk. You are at home.

Surely this is the environment that we ought to seek in our country houses rather than the diminished grandeur that may be borrowed from Roman palaces. It is good to get back to the soil, to get in touch again with natural ways, and to renew the intimacies of an unformalised social life. If the architect is not master enough to know how to express this natural life in the shell he is called upon to build for it, he has missed the truest and most exquisite function of his calling.

If the reader will keep in mind these two opposite modes of planning as he examines the architectural journals, he will observe that the great majority of American houses are modelled upon neither one exclusively; and this, of course, is just what one would expect. If a family can have but one house, especially if it be in that suburban region betwixt city and country, it must serve for formality and domesticity alike. But when one builds in real city or real country, then it is worth while to try to express the local quality of the place and the life normal to it. The city is cosmopolitan and the attrition of people gathered from many localities tends to wear down their native peculiarities and produce a uniform conventional type. City houses should be conventional and uniform, and our taste in this respect is far from the best standard, as exemplified in Paris, for example. We too often take our rusticity into the city and try to be individual where we should be conventional. It is an equal breach of fitness to carry the city ways into the country. Just where and how the line is to be drawn is a question which has a different answer in each case. It is a question of manners, of taste, of unconscious emphasis or relish. Offence comes when one begins to air his knowledge for its own sake. The fault is not in the thing but in its absence of occasion. See how charming in its freedom from sophistication amongst natural surroundings is a house by Mr. Garden. Mr. Elmer Grey's work has this indefinable quality of naturalness in a high degree, combined with remarkable skill in the composition of masses, and Mr Howard Shaw displays in his own house a great felicity of technique in handling a balanced mass in an informal spirit. As Browning says:—

A little more, and how much it is;
A little less, and what worlds away.

Why one house is adorable and another is an abomination is hard to say; but the poetic sense underlies all good work, and to the architect who understands his trade and can express in material shapes the moods of men, the country house will always be the most congenial of his tasks, for in it he may give expression to the deepest of man's passions—that which unites the love of nature with the love of family and friends.

The Election to the Slade Professorship of Fine Art at Cambridge will take place on June 18. The professor is elected for three years, and the outgoing professor may be re-elected. The professor receives a stipend of about 340*l.* a year. Candidates must send in their names to the Vice-Chancellor, Queens' College, before June 8.

TESSERÆ.

Cloisonné Enamelling on Porcelain.

THE Japanese art of cloisonné enamelling upon porcelain is of recent origin, dating only from 1870, when it was commenced at Nagoya. Shortly before that year, and following upon the revolution of 1868, which led to the deposition of the Shogun and the disorganisation of society, the superb ancient examples of cloisonné enamelling upon copper, which had previously been preserved in the storehouses and palaces of the princes, were brought to light, and fired the Owari workmen with the desire to imitate them. The experiment was made at Nagoya upon grounds of thin copper as well as porcelain. Large vases and dishes, made upon the former plan, were produced in abundance and sent to Europe, but the impossibility of successfully imitating the marvellous works of the artists of the Mediæval ages was quickly recognised, and the manufacture has been discontinued at Nagoya, although pursued to some extent at Tokio; but the work there is done upon heavy cast copper and brass foundations, after the Chinese method, and the colouring is European, no attempt being made to copy the ancient Japanese models in this or in any other respect. On the other hand, the comparatively distinct process of enamelling upon porcelain has been carried on to a large extent. The enamel pastes used in this process are of a soft nature, vitrifying at a much lower temperature than those which were employed in the old work upon copper. The decoration chiefly consists of birds, foliage and diaper patterns, outlined by brass or white metal cloisons, and rendered in brilliant colours, generally upon a pale blue ground, differing in these respects from the earlier efforts, which were in dark green and other low-toned colours, after the manner of the ancient work. Another method of applying cloisonné decoration to porcelain is to use lacquer instead of vitreous pastes for the purpose of filling in the patterns formed by the cloisons.

Hogarth and High Art.

In discussing high art, it is well to compare it with literature of the same kind, for this has a language much more readily understood in modern times than the language of art. Also, in estimating the different positions which literature and the arts take, we must put written poetry first. Art and music touch it with the spear of Ithuriel. Art approximates nearest to poetry or music according to its subject and treatment. "The Bridge of Sighs" and "Luck of Roaring Camp" belong to high art in poetry because they touch profoundly the highest and deepest feeling, though grotesque in style. The work of Hogarth is an almost identical example in painting. But all these belong to high art in spite of, not because of, their grotesqueness. Bret Harte and Hogarth are not greater masters of their art because they make their attack upon our feelings by surprise rather than by solemn order of battle. The conquest may be as complete, but the victory is not greater because it takes us unprepared. For it must be owned our natural sense of propriety makes some demands. Diogenes unwashed and unkempt cannot sit beside Alexander splendid from conquest without some shock to our feelings. Hence it is that the highest subjects demand the noblest treatment, otherwise there results some shock to our sense of congruity. The highest art in intention and most admirable embodiment is to be found in Hogarth; but because the material conditions did not permit of an appeal to a sense of nobility, no appreciation, no loudly expressed opinion of his just claims by the best writers will ever be able to place him by the side of the greatest painters. Though he was really greater than most, he was forced to speak in a dialect, and cannot therefore compete with those poets who had the command of all the treasures of language.

Raphael in Florence.

It is probable that Raphael first visited Florence about the end of 1504, or at the age of twenty. From his sketches it is evident that at that time he came under some new influence. The provincial Umbrian manner is exchanged for the more skilled and intelligent style of the greater Florentines. The city opened a new field for him, in which he observed that artists were not working from set forms, but in obedience to principles and laws. Raphael was no longer a child who had a lesson to learn, but a man with unusual acquisitive propensities; not like Bagiardini, whom Michel Angelo called happy, because he was content with the little he had learned, but a craftsman who had acquired much yet wished to acquire more. He saw Leonardo's masterpieces without that material craving for imitation which had beset him in Perugia. He took hold of the maxims which Da Vinci had taught, not of the very shapes which he had painted. He made Leonardo's lesson a study, and became his disciple in a far higher sense than he had previously been the pupil of Perugino. With the appearance of Fra Bartolommeo, a new life was given to the art of Leonardo. Raphael seized the favourable opportunity, became the intimate friend of the Dominican, and, incredible as it may seem, gave him lessons in perspective. The fruits of this intimacy were not slow in appearing. Raphael patiently continued to apply the precepts of Leonardo in the pictures which he executed; but he modified some of the lessons of his manner in obedience to the lessons of the friar, and came at last to embody many of the qualities which distinguished that remarkable painter.

Architects in Egypt.

In ancient Egypt the architect was socially superior to the painter, and even to the sculptor. His uncontested pre-eminence is to be explained by the secondary *rôle* which sculpture and painting had to fill. Those arts were cultivated in Egypt with sustained persistence; rare abilities were lavished upon them, and we may even say that masterpieces were produced. But plastic images were less admired in themselves; their intrinsic beauty was less keenly appreciated in consequence of the practical, religious or funerary office which they had to fulfil Statues and pictures were always means to an end; neither of them ever became ends in themselves, as they were in Greek works, whose final object was to elevate the mind and to afford to the intellectual side of man that peculiar enjoyment which we call æsthetic pleasure. Such conditions being given, it is easy to understand how painters and sculptors were subordinate to architects. It was to the latter that the most pious, and at the same time the most magnificent of kings confided all his resources, and his example was followed by his wealthy subjects. It was to him that everyone employed had to look as the final disposer; the other artists were no more than agents and translators of a thought which was grasped in its entirety by the architect alone. His work, embellished with all the graces of a decoration which reckoned neither time nor materials, formed a homogeneous and well-balanced whole. It was in inventing, in bringing to perfection and in contemplating such a work that the Egyptian mind gave itself up most completely to love for beauty. If we take an Egyptian building in its unity, or the product of a combined effort on the part of a crowd of artists labouring under the directing will of an architect, we shall no longer feel surprised at the time demanded by the study of his art in Egypt.

Donatello and Monumental Sculpture.

Donatello left the stamp of his powerful imagination on the Italian sepulchral monument as on every other branch of sculpture. Fired by that love of Classic art which he and Brunelleschi had studied in the ruins of ancient Rome, he introduced radical changes in Arnolfo's old type of monument. Greek forms of architecture were substituted for the pointed arch and spiral column, the curtain was looped and twisted in heavy folds, and the angels were generally omitted. The sarcophagus, shaped into an urn or vase, and concealed by elaborate ornamentation, was raised on a substructure decorated with festoons, cornucopiæ and arabesques and enclosed in a niche, flanked by Renaissance pilasters. Winged genii holding coats of arms or wreaths of flowers, caryatides supporting the sarcophagus, or flaming vases as emblems of immortality, show the increasing predominance of Pagan motives. But Donatello's age, although it witnessed the revival of learning, had not lost faith in the unseen, and Christian hopes were still present to the artist's mind. In the upper part of the monument, on the surface left exposed within the recess of the arch, Donatello introduced a medallion of the Virgin and Child, surrounded by adoring angels, carved in the exquisite low relief in which he excelled, scarcely raised above the flat marble, and yet affording endless gradations of light and shade. This roundel of the Madonna, which took the place of Arnolfo's Gothic statuettes, became the distinguishing feature of Florentine fifteenth-century tombs, on which the sculptor bestowed infinite care and tenderness, and which were to suggest the form of Lucca della Robbia's delicate blue and white medallions and of Botticelli's most inspired creations.

Masons' Marks in Palestine.

The masonry of the Crusaders is in Palestine, as everywhere else, drafted with a boss, which is left rustic in the exterior walls, but finely finished in the interior. It is a very common mistake to suppose that such masonry was found and reared by the Mediæval architects, but we have good evidence to show that it was actually cut by the Gothic masons, as in Cyprus also and elsewhere. Indeed, so far from drafted masonry indicating Jewish or Phœnician builders, we have no evidence whatever that these nations ever used it, though we know that Greeks, Romans, Byzantines, Crusaders and Arabs all drafted their stones. The Jerusalem temple walls and those at Hebron give no contradiction of the supposition, for they are, in all probability, Herodian imitations of Greek or Roman work. At Crac we find masonry drafted, yet dressed with the peculiar diagonal Gothic dressing, and, moreover, marked with masons' marks. We find Pointed arches with the keystone cut out to form the point, and yet drafted, as are the remaining voussoirs. The masons' marks are of considerable interest. They are distinctive of the Crusading work of the twelfth and thirteenth centuries, and are found on all the best finished stones on the walls of such buildings, but especially on interior walls. The same mark is found in places separated by hundreds of miles, and in English cathedrals and Persian palaces no less than in Crusading castles or churches. The same work is used in buildings which differ in date by more than the lifetime of a single man, and all the letters of the alphabet except Q are found, which seems to indicate that the masons were French or Italian. X is doubtfully found, and so, curiously enough, is D, but the marks are not merely letters, for many very interesting signs also occur. Among these more suggestive marks may be noted the "Solomon's Seal," or five-pointed star, "David's Shield," or the double triangle, giving six points, the lituus or crozier, the fish, the cross, the trident, the arrow, the fleur-de-lis, the hammer and other well-known emblems of good luck. The two first are Indian caste marks, as is also the trident; the letters of the Slav alphabet dating earlier than the ninth century are also in many cases exactly like the Norman masons' marks; and several of the masons' marks found by Ouseley on the old palace of Saaditalat, near Ispahan, are the same as those copied in Syria, including the cross, the arrow, the hour-glass, the trident and the square. No doubt in some cases a letter was put on the stone by way of claiming its workmanship, as, for instance, at Rosslyn, where such a mark is found on the famous "'prentice pillar," no doubt cut by that proud mason to mark his own work; and this perhaps accounts for the marks being always on the finest stones. There is evidently no indication intended of the position for which the stone was destined; but in many cases it seems pretty clear that the signs were intended as charms to secure good fortune to the building, just as the hand or the "Shield of David" is now painted in red on doors and walls by the Moslem masons in Syria.

Popular Criticism.

Every person, whether arrived at the years of discretion or not, thinks himself qualified to judge of a painting or a statue. The most modest say, "I know nothing about it," and then proceed to admire all sorts of incompatible and incongruous things. In all other human productions an enlightened and reasonable person sees at once that it is not enough to know what he likes, but what is worth liking; but, respecting questions of taste in art, he thinks himself born competent to judge, no matter though he has never given an hour's patient consideration to the subject, or looked carefully at a good statue or picture or taken a modelling tool or drawing pencil into his hand, so as to form an experimental notion of what it really means, or to translate natural forms into pictured or sculptured ones. With all this he is quite ready to pronounce criticisms and opinions on any work of art that comes within his reach. The only way to form a just judgment about these things is to learn, by the study of the masterpieces of art that have come down to us from former times, what constitutes the best and greatest.

Correspondence

Old Buildings near Manchester.

Sir,—The Manchester Society of Architects is endeavouring to compile a complete list of all old buildings in a district 70 miles square surrounding Manchester which may be worthy of the attention of architects, to include very brief notes of their character, date and comparative importance, with a map to show their positions. Such a list should, we think, be of considerable value to architects, both to those living in the district and also to visitors, so that we feel justified in asking for some outside assistance in the extensive work of collecting information.

We have printed a preliminary list (of which a copy is enclosed) containing slight notes on some 350 buildings, and we earnestly hope that some of your readers may be willing to co-operate with us in making the list more useful to architects, either by correcting errors in the present list, amplifying the notes (which are at present far too crude in most cases), suggesting additions or giving photographs or reproductions of drawings of the buildings for our library reference portfolio.

To any one willing to take even a very small share in the work we shall be glad to forward a copy of the preliminary list.—Yours faithfully, for the map sub-committee,

Alfred E. Corbett, Editor.

78 Cross Street, Manchester
May 3, 1904.

The Managing Committee of the British School at Athens have received a grant of 100*l.* for a further period of three years from the Worts Fund, Cambridge University.

GENERAL.

Mr Rupert Bunny's picture in the Salon of the Société Nationale, Paris, has been bought for the Luxembourg Gallery. This is the first occasion that the honour has been conferred on an Australian artist.

Sir John Jackson, Ltd., the contractors for the Plymouth Dockyard extensions, have been served with a writ by the owners of property in the fishing village of Hallsands, Devonshire. It is alleged that the defendants removed thousands of tons of shingle which formed a natural barrier against the inroads of the sea. Sir J. Jackson and the Admiralty subscribed towards the erection of a sea wall for the protection of the village, but that has been partially washed away, and in the gales of the past winter portions of the village have suffered much damage.

The New Teddington Lock will be formally opened on June 11. The distance between the upper and lower gates is 650 feet; there is also a centre gate dividing the lock into two smaller ones, 380 feet and 270 feet long. The culverts can fill or empty the lock in seven minutes, the outlets being distributed over a considerable length in order to minimise the disturbance of water. Auxiliary sluices are provided in case of accident. The work was designed and carried out at a cost of 30,000*l.* by the engineer to the Conservancy, Mr. C. J. More.

Mr. Frampton, R.A., has been consulted with regard to the memorial proposed to be erected to the Marquis of Salisbury at Hatfield. Acting upon the advice thus obtained, the committee have decided that a bronze statue in a sitting posture upon a granite base should be erected. The estimated cost is 2,750*l.*

The Foundation-Stone of the front extension of the Durham College of Science, Newcastle-on-Tyne, was laid on Monday The main front, which faces towards the Leazes Common, will complete the college buildings. Its cost has been provided by a fund of 50,000*l.*, raised to commemorate Lord Armstrong, whose name the college will bear.

The Rev. Robert Burn, who was Prælector of Roman literature and archæology in Trinity College in 1873, died on Saturday last. He was the author of "Rome and the Campagna," "Old Rome" (for the use of travellers) and "Roman Art and Literature," and other valuable works.

The Worthing Town Council have resolved to invite a limited number of architects to furnish competitive plans of a new public library and school for secondary education and technical education, together with an art gallery and museum. The cost of construction is to be restricted to a sum not exceeding 15,000*l.*

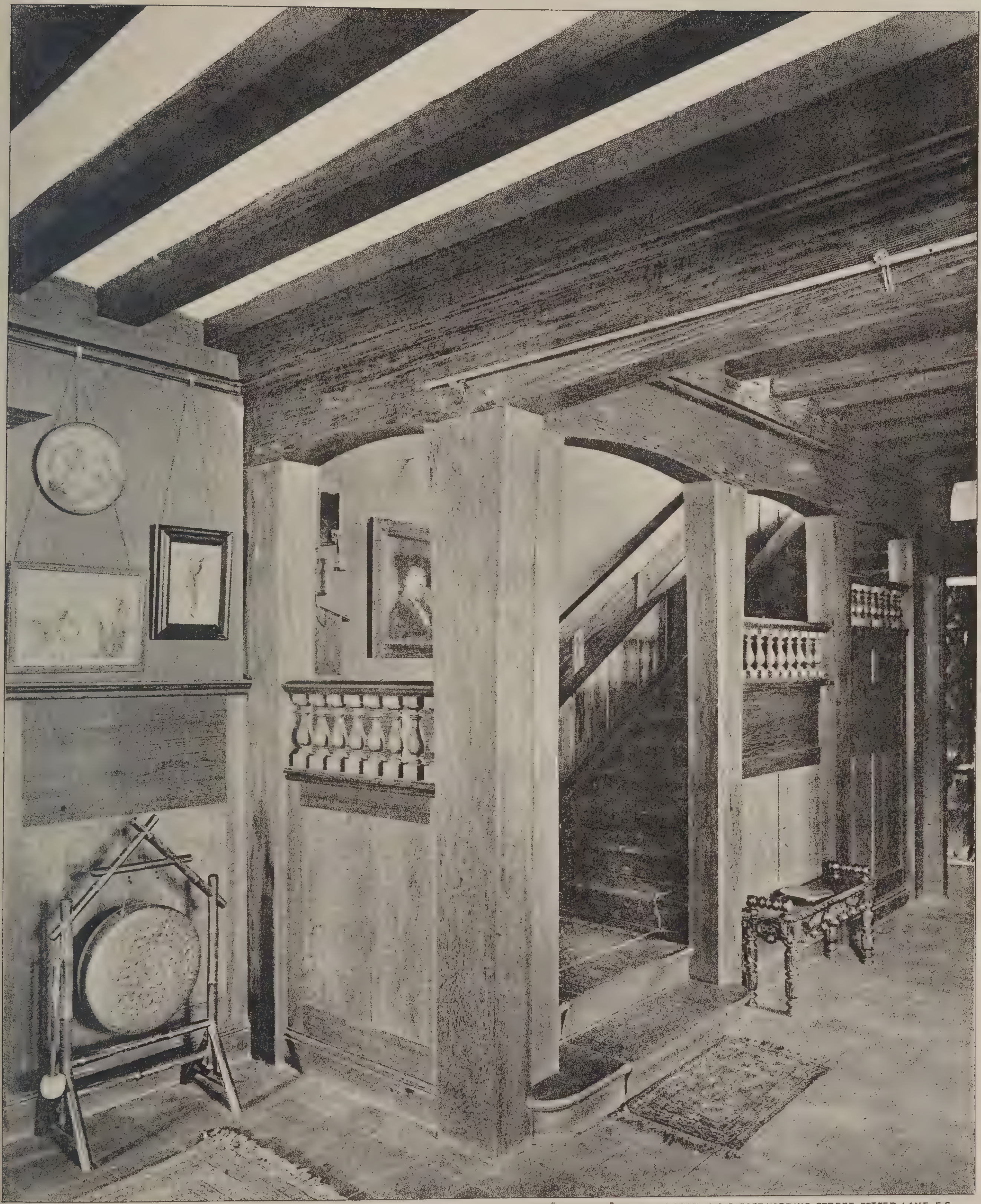
The Birmingham City Council have approved a proposal to erect a piece of statuary in Cannon Hill Park as a memorial of the Birmingham men who fell in South Africa. A sum of 2,000*l.* has been raised by public subscription. The committee are now in a position to invite designs from leading sculptors. The memorial when completed will be offered to the city. A number of probable sites in the centre of the city had been inspected by a sub-committee, but were found unsuitable, either on account of position or incongruous surroundings.

St. Martin's, Blackheath, near Guildford, is being restored as a memorial to the late Sir William Roberts-Austen, assayer of the Mint. The eastern wall, the chancel arch and the pulpit will be lined with alabaster and the ceiling enriched with plasterwork in relief and gilded.

The Johannesburg Town Council has approved of the assignment to Messrs. D. Stewart & Co., of Glasgow, of the contract for the generating plant proposed to be entered into with Messrs. Siemens Bros. The Council has also approved of Messrs. D Stewart & Co. becoming sole contractors for the whole of the plant.

The Metropolitan Water Board will issue stock to the value of 35,000,000*l* through the Bank of England for the purpose of taking over the undertakings of the water companies.

The New St. Anne's Roman Catholic cathedral at Leeds, which takes the place of a building now being pulled down, was opened on May 1. For the old Cathedral Presbytery of Schools the Corporation of Leeds gave 46,000*l.*, in addition to the site for the new cathedral, the site being valued at 30,000*l.*, and with the money thus received the new cathedral has been built, so that it is now practically free from debt. It is a Gothic structure from the designs of Mr. J. H. Eastwood, of Kensington, and comprises a wide nave and triple side aisles. The old church cost less than 7,000*l.*, and so greatly has land risen in value in the heart of the city that with the increased value the congregation have acquired their new cathedral. In the nave, aisles, transept and the lady chapel there is accommodation for 850 persons. The old building was secured by the Corporation for street improvements.



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"WINDYATES," BOURNEMOUTH: HALL AND STAIRCASE.

Messrs. BREWERTON & SHEPHERD, Architects.

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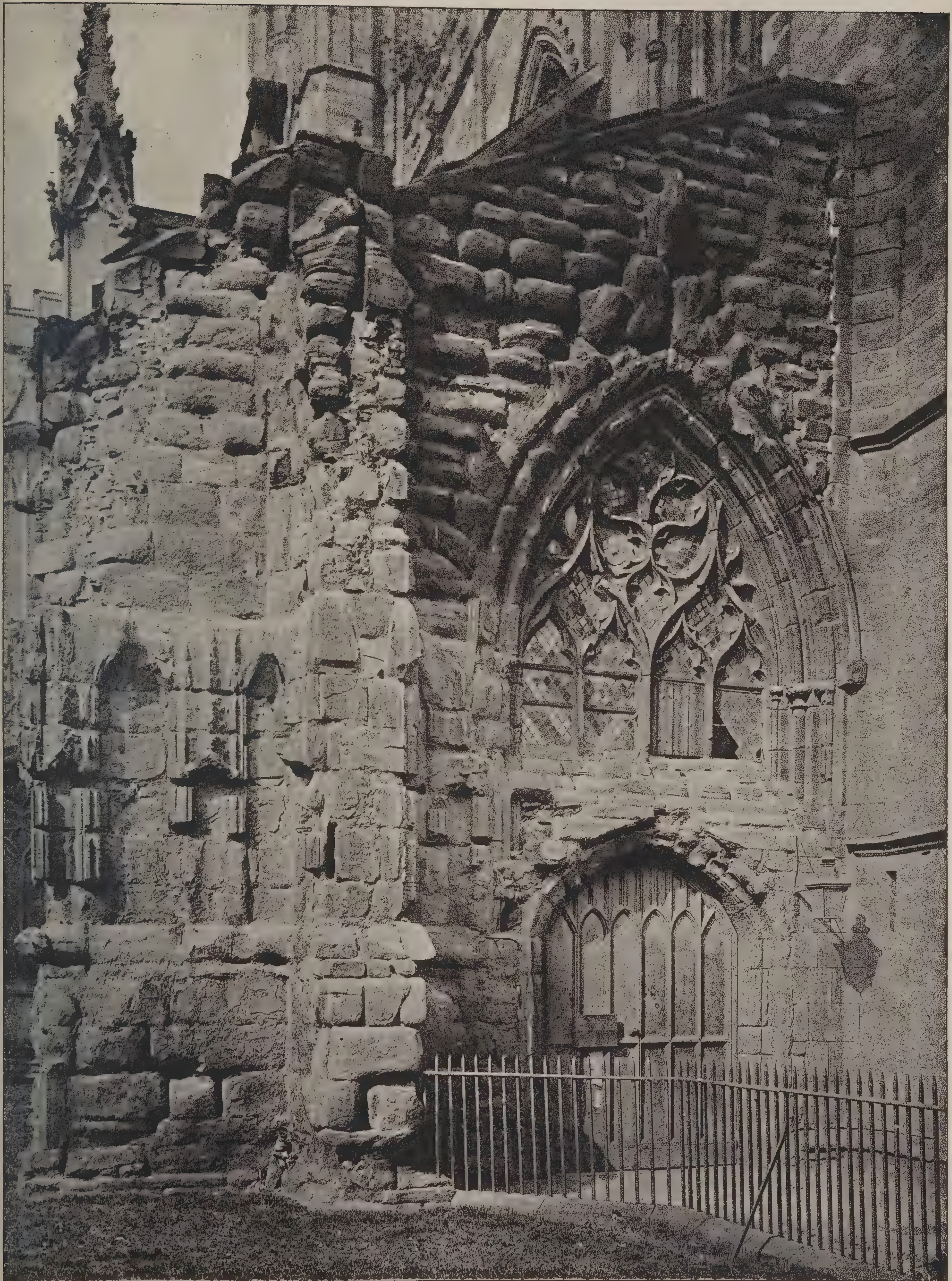

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Cathedral Series, No. 490.—Chester: Window and Door at South End of West Aisle of South Transept.

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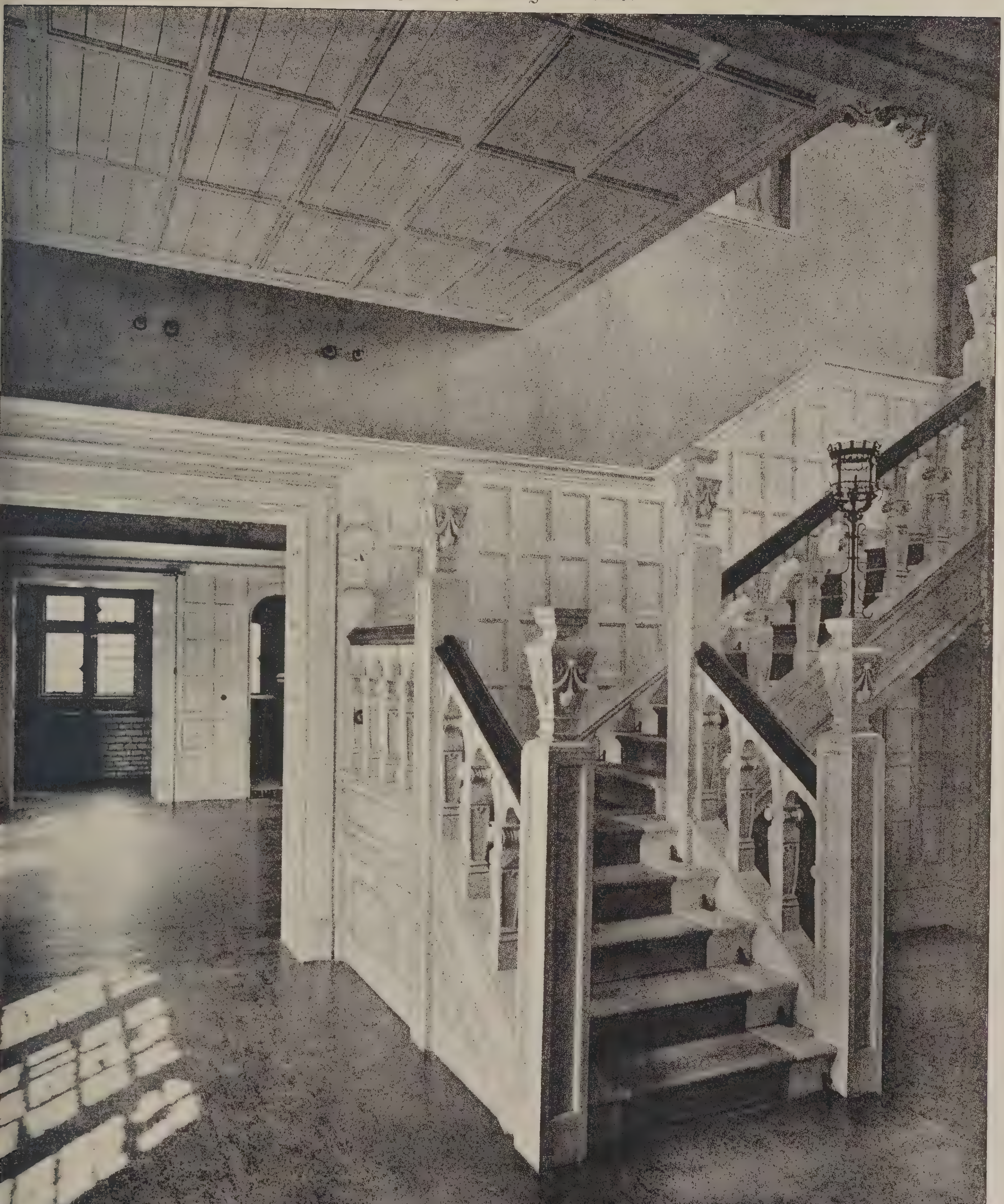

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"STRATHBRAAM," SHILLINGFORD: THE HALL.

F. T. VERITY, Architect.

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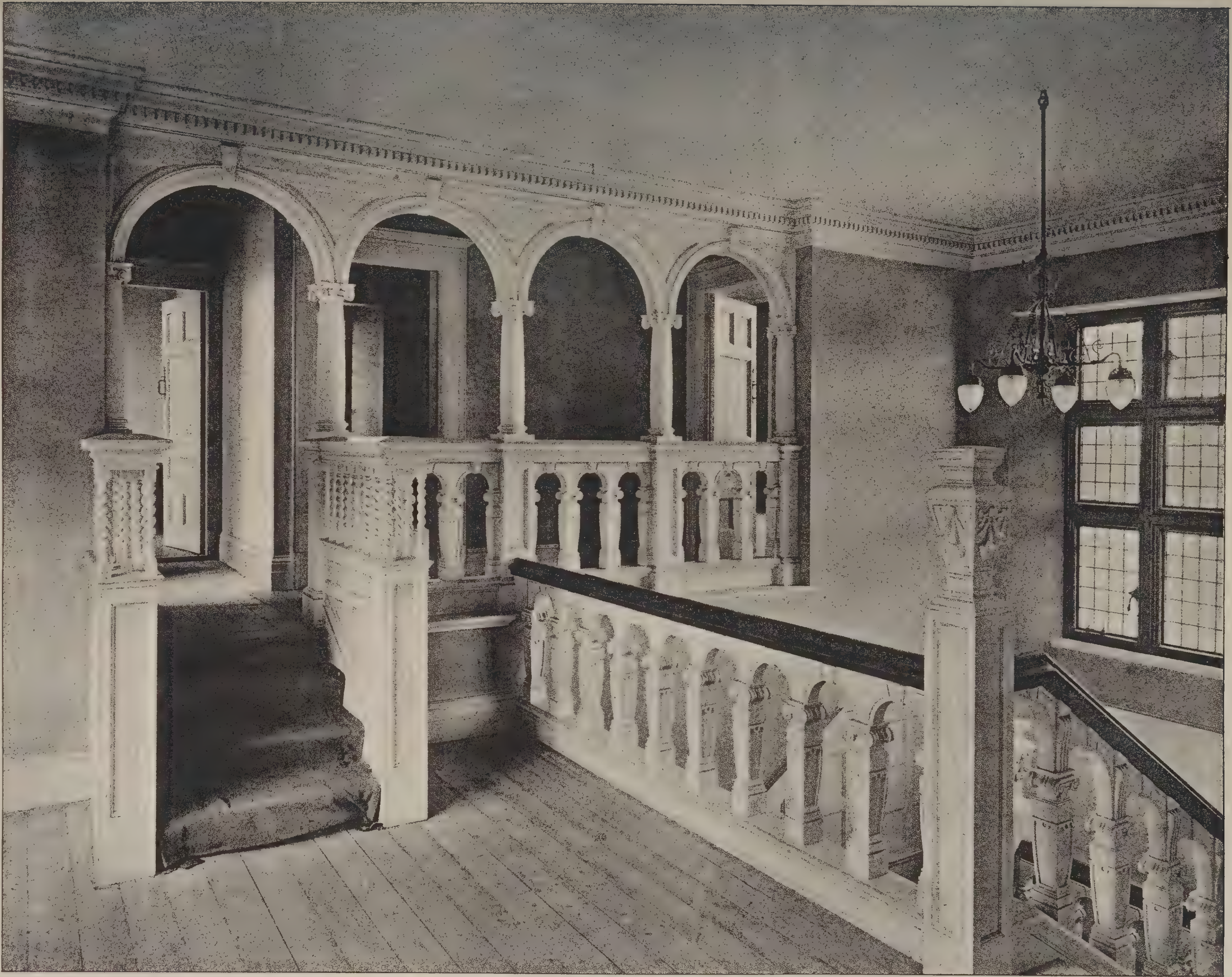

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"STRATHBRAAM," SHILLINGFORD: TOP LANDING.

F. T. VERITY, Architect.

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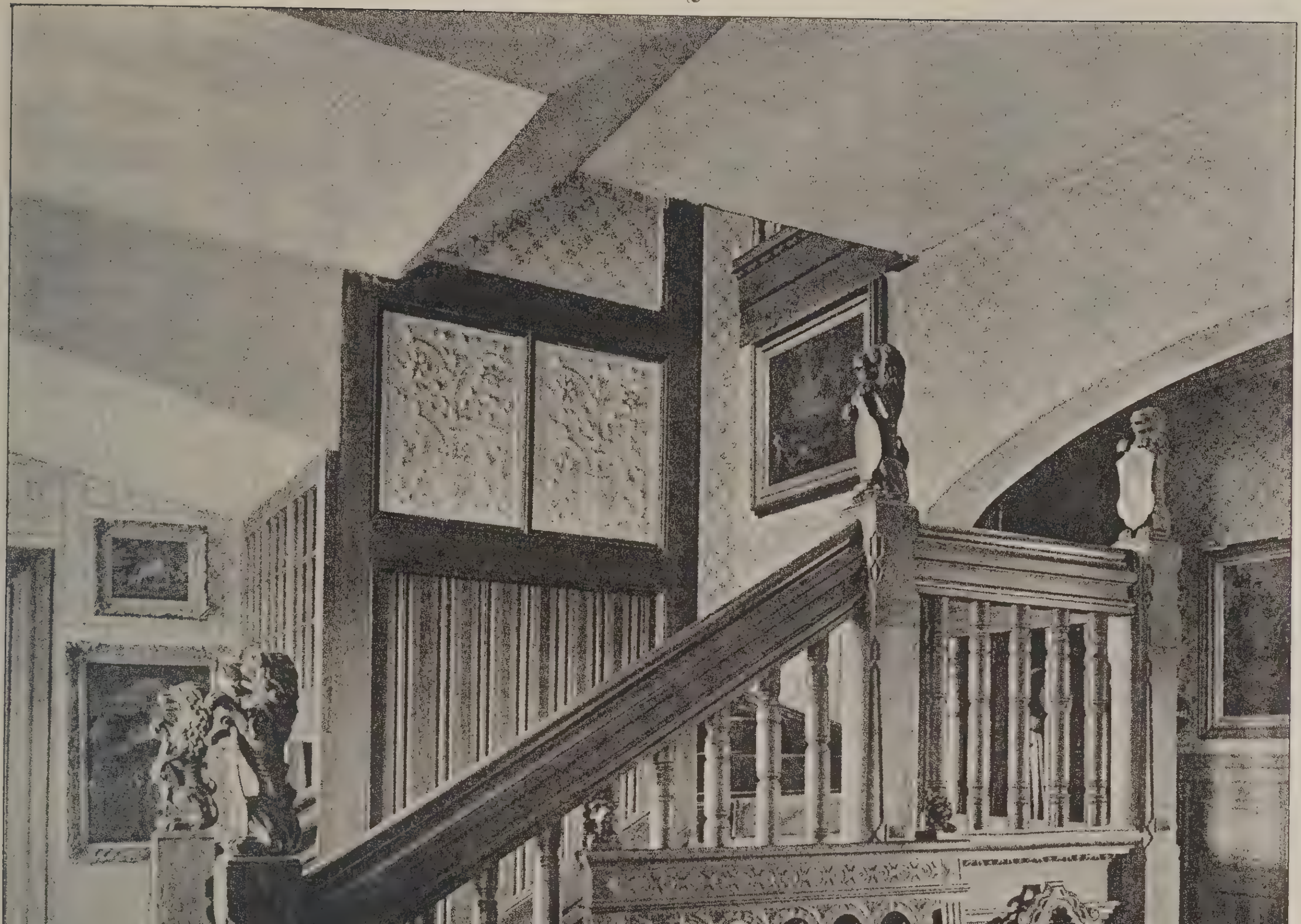

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"THE KNOLE," BOURNEMOUTH: THE HALL.

Messrs. BREWERTON & SHEPHERD, Architects.

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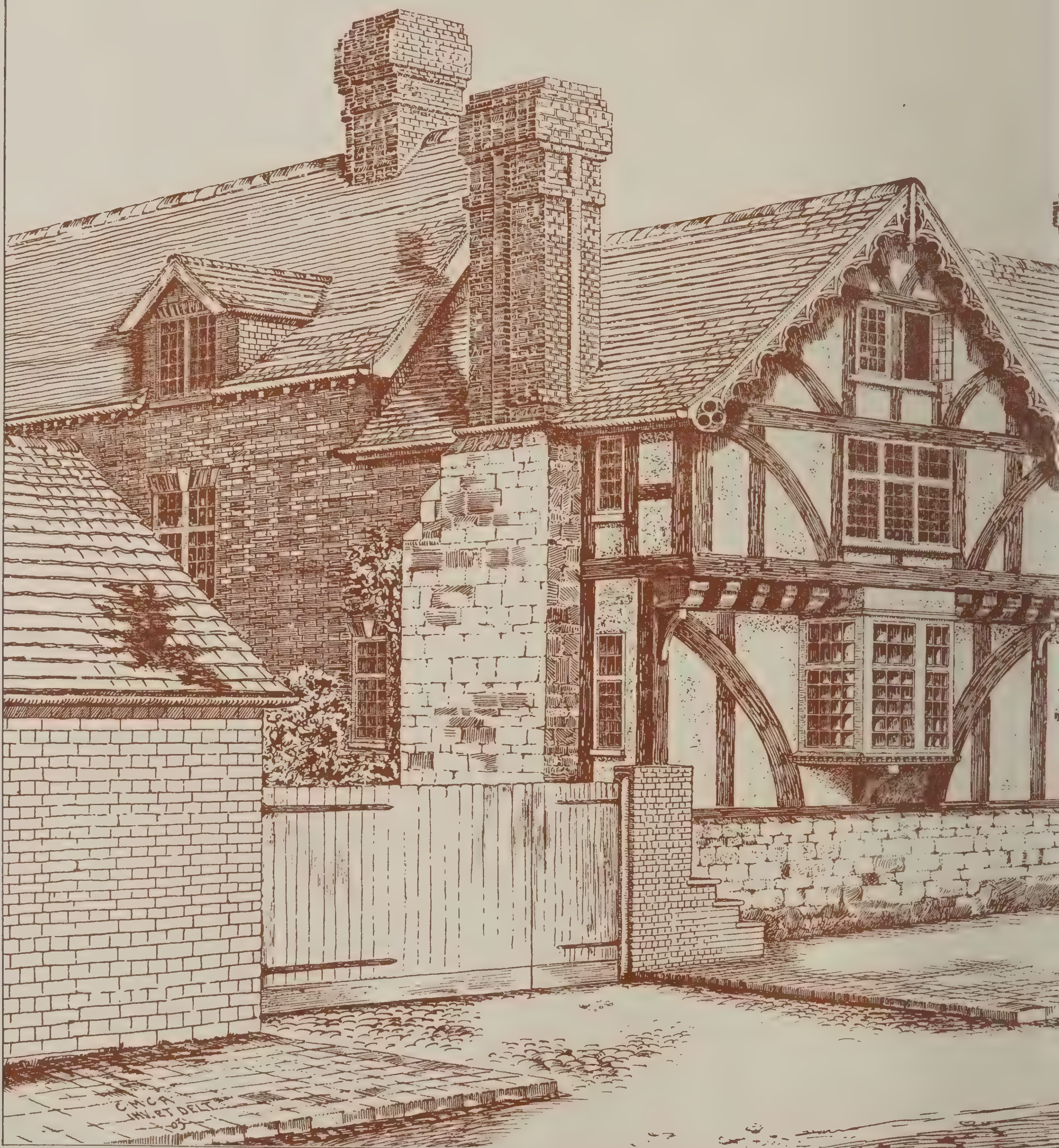
HOUSES IN MILL STREET · WARWICK

RESTORATION AND REBUILDING
For The Warwick Estate

Charles M·C· Armstrong
ARCHITECT
WARWICK
c·1600
1903


C.M.C.A.
INV. ET DELT.
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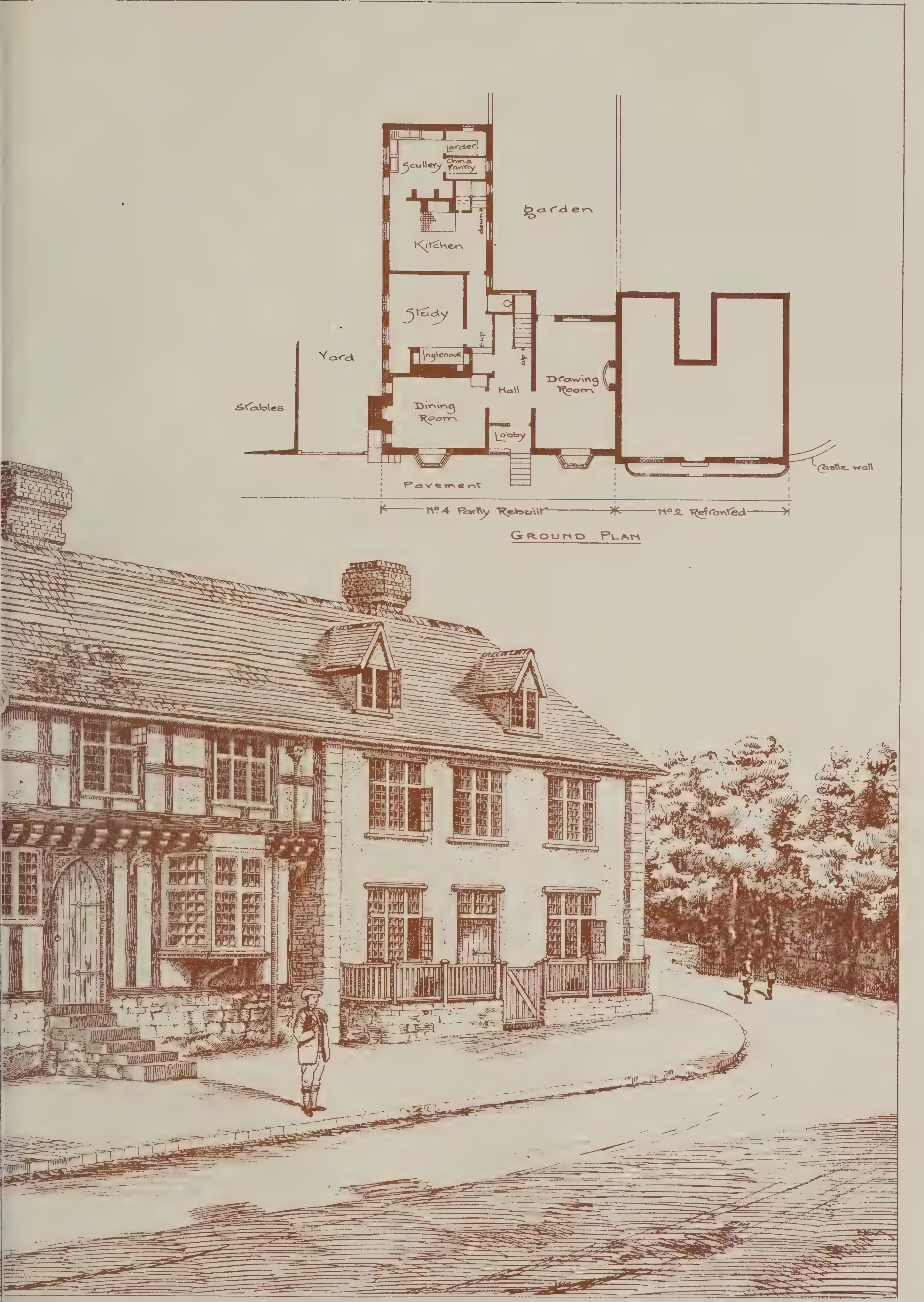

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The Architect.

THE WEEK.

Mr. Watts, R.A., takes a rather pessimistic view of art and artists in this country. He believes there is no real love of art in the English character. The crowds who visit the Academy because fashion dictates that the pictures must be seen, neglect the New Gallery where better work is found. The profession of artists he considers lamentably overcrowded, and for a poor student the prospect is far from encouraging. Mr. Watts says he has been working from an early age, but after all the years of toil he is not wealthy, nor are his pictures popular. He does not claim to have had any artistic training, and although an Academician, admits that many of our greatest artists owe nothing to the teaching of that institution. Unfortunately young students close their eyes to all but the prize winners in the arts. Whether it is in acting or in architecture, painting or sculpture, literature or music, it is taken for granted that one has only to desire greatness and it will be immediately forthcoming. What adds to the delusion is that so many schools and academies exist which tacitly engage that all who enter them are certain of success.

The word "height" is mentioned several times in the course of the Workmen's Compensation Act. It is essential that the building where an accident arises should be 30 feet or more. In one case, however, the Court of Appeal held that the height of a building is immaterial where steam, water or other mechanical power is employed as an auxiliary in the construction or reparation. But if height becomes important there is a neglect of any reference to depth, although some of the difficulties which have arisen would have been avoided if certain depths were defined. For instance, there has been considerable discussion in the courts as to how much of the depth of substructure or foundations should be taken into account. We suppose it was owing to the neglect to take cognisance of depth that Judge Lumley-Smith on Monday, in the City of London Court, was compelled to decide that the Compensation Act did not apply in the case of a man who fell 140 feet into a well and was killed. He was engaged in preparing a piston rod in a lift-well at Artillery Mansions, Victoria Street. It was argued that the well, which was a structure of bricks and mortar, was a part of the building. But the judge could not accept that view, although he supposed that the crypt of a cathedral would be part of a building. The decision was therefore given for the defendants. The opinion was once expressed by Lord Macnaghten that the provisions in the Act relating to the height of a building were "intended to exempt a certain class of buildings, and perhaps a certain class of builders of the humbler sort, from the operation of the Act." Underground structures are often of great importance, and accidents may arise in them. It is not absolutely necessary that the machinery necessary for the working of a lift should be carried underground, although it is found more convenient to make that arrangement. The well, in fact, corresponds with the flues of chimneys, which are sometimes carried horizontally or at a slight angle instead of being made vertical at once. Whether the shaft which is constructed in connection with a lift corresponds to an ordinary well which may be at a distance from the building is a question worthy of the consideration of a higher court.

It cannot be said that France holds a position worthy of its renown among the explorers of ancient sites. Occasionally a small commission is sent out to some place where discoveries are likely to be made inexpensively, but Ministers of Finance are unable to grant the money requisite for digging a large area. Realising this fact, some prominent Frenchmen have formed "La Société Française des Fouilles Archéologiques." Membership is acquired by an annual subscription of 20 frs. and life membership by 200 frs. But several larger sums have been contributed to start operations. The first efforts will be directed to a part of old Marseilles, a city with a history going back to the time when the Phocæans founded the settlement, about six centuries before our era. It is likely that much remains beneath the soil to reward excavators. It is possible also that in a short time a site in Spain will be selected. Many spots have been named as eligible, but it is much easier to offer suggestions than to present money to pay for the work.

The efforts of so many corporations to engage in business on a grand scale are not without their influence on smaller bodies. Municipal trading is, in fact, infectious, and may be witnessed in towns ill-adapted for the operation. An example has been afforded by Arundel. It is an ancient place, and is owned by a most liberal landlord. But from its circumstances it cannot become a manufacturing town, or a centre for trade on an unusual scale. One result is that, according to the census returns, the population does not increase. The Town Council assumed that the cause was to be found in the scarcity of dwellings. Negotiations were accordingly entered into for acquiring land which could be laid out in building sites. The value amounted to over 30,000*l.* The next step was to seek for plans in competition by the offer of absurd premiums showing the best way for laying out the estate. It was anticipated that rival syndicates would be formed who would struggle to obtain the land, and would lay out roads and erect houses which after ninety-nine years would become the property of the town. There are a great many rash speculators who dabble in building, but the Arundel scheme was one from which only loss could be anticipated. There were no applications, and the land continues to be employed for pasture. The Council are now contemplating further expenditure, although it is not quite clear in what way it can be returned. Dealing in building estates is a business requiring great circumspection, and even the shrewdest speculators have often to sustain heavy losses. When mere amateurs experiment in it the results are always likely to be serious, although, as in Arundel, the losses sometimes fall on those who took no direct part in the speculation.

There is a tendency to presume that building lines are elastic unless in the streets of large towns. The regulation in the Streets Act of 1888 is, however, general in its application. According to section 3 it shall not be lawful in any urban district, without the written consent of the urban authority, to erect or bring forward any house or building in any street, or any part of such house or building, beyond the front main wall of the house or building on either side thereof in the same street, nor to build any addition to any house or building beyond the front main wall of the house or building on either side of the same. Where there is sufficient space the section bears hard on architects, for a great improvement in a design may be practicable if it is not imperative to keep the fronts of all the buildings in one plane. A case of the kind was considered by Mr. Justice Farwell on Saturday last. The Wimbledon House Estate Company lodged plans for a house on a building estate in which the front wall of the billiard-room projected 6 feet 3 inches beyond the main wall of the house. There was a mistake on the part of the Urban Council in declining to approve of the plans because they were not in accordance with the by-laws. A summons was taken out, and the magistrates imposed a penalty of 20*l.* and costs, but declined to demand a continuing penalty, although the Act allows 40*s.* a day to be exacted. The Attorney-General interposed and claimed a mandatory injunction in order that as much of the house as infringed the Act should be taken down. It was maintained by counsel for the estate company that as there were *laches* on the part of the Urban Council, the mandatory injunction ought not to be imposed. Mr. Justice Farwell said he could see no other way of giving effect to the Act except by granting the injunction. A stay of execution was, however, allowed. As well as can be judged, the projection of the billiard-room would not in any way affect the rights or privileges of the inhabitants of Wimbledon. The appearance of the house would be improved by the addition of a wing, and it is for the general good when particular houses show a departure from the rigid lines which, however useful in barracks, workhouses and small streets, are not adapted to country houses or to detached suburban residences.

SCULPTURE AT THE ROYAL ACADEMY.

According to Falconet, it is an identical spirit which inspires the architect, the painter and the sculptor. Art is consequently seen in its most complete form when they combine to produce an effect. Strictly speaking, in the majority of cases painting and sculpture should come to the aid of architecture, although it may be in an infinitesimal degree. A statuette in ivory in a boudoir is not without effect on the room itself. Generally there is only an accidental effect, and it would be better if foresight had been exercised and a place provided for the figure which would add to its artistic importance. Pieces of sculpture may sometimes be placed out of doors, and are then supposed to be independent of architecture. But if they stand in a garden attached to a house they possess an indirect relation with the building and increase or diminish its beauty according to circumstances. Besides, it is well to recollect that many a piece of sculpture which once might have been found in a garden is now the chief ornament of a museum or of a mansion.

Unfortunately a large number of people are under the delusion that sculpture is an independent art. Painting is also considered in the same way. The consequence is that busts are ordered without any definite notions about the positions they are to occupy. It occasionally happens that the introduction of a bust in a house causes great inconvenience in the way of rearrangement of the furniture, in order that it may be seen to the best advantage. This isolation of each art produces a collection which is peculiar to the Royal Academy. In a French or German exhibition we not only meet with examples of painting which are destined to become part and parcel with the walls of a building, but also pieces of sculpture especially modelled for its completion. In the Academy a familiar Irishism may be applied generally to works of that class, for they are "conspicuous by their absence."

We ought this year to be thankful that we can see the "Keystone to New Building, Royal London Friendly Society," by Mr. A. Drury. In the Architectural Room we have an interior of the hall, in which painted decoration is largely employed on ceiling and walls by Mr. Belcher. A stone which is supposed to perform an exacting mechanical duty is not theoretically adapted to represent the head of a man or woman, any more than the flange of a girder is a field for painting. But it is a very old custom to utilise a keystone for that purpose, and the ornamentation, no doubt, suggests its importance among the other voussoirs. Mr. Drury has modelled the helmeted head with great power, and it possesses the strength and dignity suitable for such a place. "The Spirit of British Maritime Commerce" is a group in bronze and marble by Mr. Lynn Jenkins, forming a portion of Mr. Collcutt's decorative scheme for the staircase of Lloyd's Registry. In it the Spirit of Commerce is steering a galley without sails, which is laid out on such beautiful lines as at first sight to appear like an Imperial chariot. The "Reredos" by Mr. Reynolds-Stephens, who has already shown his power as a decorative artist by his paintings, shows a figure of Christ with His hand raised as if in blessing, while in the wings of the triptych are small reliefs of the Nativity and the Entombment. The sides have also plants growing somewhat in the manner of the New Art. The intervening panels are doubtless intended for inscriptions or texts. The reredos is partly in silver and partly in mother-of-pearl, and is a novel and successful example of art. The treatment does not correspond with ordinary secular decoration and it should be considered as one of the most interesting works of the exhibition. "Love and Life: Sacred and Profane," is a relief which from its title will recall Titian's picture. The latter has become a puzzle partly owing to the title, but Mr. Derwent Wood's version is easily explained. It is in very low relief. In some of the figures instinct alone is dominant, in others it is reason and duty; but, as usually happens in such cases, the former are most likely to be admired by frail mortals.

Memorials of the dead are numerous this year. The last war has inspired some. Mr. Goscombe John has three; one is a large figure of the late Prince Christian Victor to be erected at Windsor, and which shows the Prince bareheaded in uniform holding his field-glasses in his right hand. The khaki is better adapted for a sculptor's purposes than the regimentals which have to be worn in London. In the memorial in relief of the Coldstreams who fell in Africa, members of the corps at different periods are shown looking down sympathetically on a dying representative supported by his comrade on a rocky ridge. Another is intended to commemorate the Liverpool Regiment. Mr. Frampton shows a figure of St. George, which is part of the memorial of Radley Collegians. The knight has just vanquished the dragon. By Mr. Pomeroy is a kneeling figure of the late Archbishop of Canterbury, in which fervour is expressed in a masterly way. The hands are worth attention. He has also a figure of "Canada" as a hunter, which is part of the Dufferin Memorial at Belfast. Mr. Thomas Brock sends a large statute of General John Nicholson, which will be erected in Delhi, and a seated statue of Lord Russell for the Law Courts. Figures of "Labour" and "Maternity" of great size, by Mr. Alfred Turner, are from the Queen Victoria memorial at Nottingham. The fine group, "Angel and Child," by Mr. Furse, is to be placed in Hampstead cemetery under a stone canopy. Mr. Toft's "The Cup of Immortality," in very high relief, shows an old man and a girl, and is an excellent composition. There is much pathos in the action of Esau as he appeals to the blind Isaac, "Bless me, even me also, O my father," in the large group by Mr. Roscoe Mullins. Scriptural scenes are not in demand, although often well adapted to a sculptor's purposes. In this instance it is possible to rely on general sympathy with the hunter, the man of the field, who in the desert, as in London at our time, was no match for the so-called "plain man" who dwelt in tents or city offices. "Isabella and the Pot of Basil" has been often represented by painters. Mr. H. C. Fehr has made a remarkable group of it. The girl is seated, and the long line of the figure as she bends over the plant is well rendered. Mr. A. C. White has selected an exceedingly difficult subject for his "Three Generations"; it would have been easy to have chosen a subject that would be more generally pleasing. Mr. Mervyn Lawrence's "Erina," a bronze bust, would serve for the lady wearing rich and rare gems who wandered through Ireland without escort in early times, when the constabulary was unknown. The cloak is adorned with Celtic ornament, though not in excess, and the brooch is suggested by a jewel; in her hand she bears a small Celtic cross, to suggest that so much safety was unknown in Pagan times. Near it is a sketch model of part of a tomb, the "Angel of Death," by Mr. Hamo Thornycroft. There is also a noteworthy head from a contemplated monument of Beethoven by Mr. A. Gilbert, whose address is now Bruges. It is called "The Mother of the Ninth Symphony." That astounding composition occupies about an hour and a quarter in execution, and although it is deemed to be the noblest example of its class, is by many amateurs considered incomprehensible to common auditors. The weird, but vivid and tragic, figure which Mr. Gilbert has imagined, and which bears some resemblance to the composer, is an apt illustration of the oppressive power of the music.

There are not many Classic subjects. Sculptors, however courageous, we presume are beginning to realise the difficulty of competing with the Greeks in subjects which they understood and we do not; the few patrons of the art also prefer inspiration to be drawn from a later time. "The Sandal," by Mr. Taubman, is Classic in spirit if not in title, and it is less open to the objection made against an ancient work, of uncertainty as to whether the figure is putting on or taking off the foot protector. There is no statue in the exhibition offering greater variety in the contours. Mr. Pegram's "Pan" recalls Lord Leighton's drawing of the god seated by the reeds of the river, but the expression of the face suggests a portrait of a model rather than an idealisation. Another of his works is the "Sibylla Fatidica," which has been purchased under the Chantrey Bequest. The title is rather a misnomer, and people may imagine it refers to a special sibyl—like the Cumean or the Delphic. All the sibyls were assumed to be fatidical, and at times in a state of prophetic fury. In the case represented the ancient woman is exercising her power to alarm a young girl. The statue of "Narcissus" shows the youth standing as if in contemplation of the reflection of more than his face in the stream. There is novelty in such a pose, and that is much in sculpture. The figure of "Marsyas Defeated," by Mr. Basil Gotto, is also an original subject. The faun has thrown down his pipe as if prepared to submit to the inevitable flaying without losing his dignity. There is nothing of the craven about him. Mr. Harold Parker's "Ariadne" is likewise a departure from traditional arrangement, for the victim appears as if kneeling. Whether before or after the rescue must be left to the spectator.

Of late years the courtyard of Burlington House generally contains an equestrian group. "Physical Energy," by Mr. Watts, is now to be seen there. It is a model of the statue to be set up in South Africa as a memorial of Cecil Rhodes. The artist has given several representations of powerful horses in painting and sculpture. Like Michel Angelo, animal power has an attraction for him. One of the most successful was *The Midday Rest*, in which some brewer's horses were seen outside a roadside inn. The great hunter who founded the Westminster family was another remarkable example. The equestrian group "Physical Energy" is in a similar spirit. The title perhaps is inadequate, for there is far more physical energy in such a horse as we see than in the rider. What is displayed is the intellectual energy which enables man to control an enormous mass of muscular strength. The rider appears as if gazing towards some distant object, just as a pioneer might who had entered an unknown region. We suppose it should therefore be accepted as the symbol of a man who was able to foresee the capabilities of Rhodesia. If taken as the work of a painter it is remarkable. But it is doubtful whether sufficient allowance is made in it for material. Those who use marble or bronze have not the freedom of hand permissible in painting, and that circumstance was recognised by all great sculptors.

It is unnecessary to say that in the exhibition, as in those of former years, busts are numerous and differ in quality.

THE INDUSTRIAL ART SCHOOL, GENEVA.

By Lawrence Harvey,

Ex-Fellow of the Royal Institute of British Architects.

The Educational Department of the West Riding of Yorkshire have decided to send sixteen directors of Yorkshire art schools to study the Geneva Ecole des Arts Industriels. These gentlemen will not be satisfied with simply inspecting the school, but will attend the teaching from May 16 to July 1—in all six weeks. The decision has been taken on the recommendation of Mr. James Graham, the inspector of the Educational Department of the West Riding of Yorkshire. In his opinion the Geneva Ecole des Arts Industriels is the best of its kind in Europe, or, in his own words, the number one for organisation and teaching. Mr. Graham's opinion stands not alone, for twice this school has obtained the highest award in the Paris international exhibitions, notably in that of 1889 and in that of 1900. The example given by the Geneva school has started most important reforms in the art-teaching of France, so that evidently there is something peculiar in the system worth the very serious consideration of all those who wish to put art-teaching applied to practical crafts on a sound footing. I am happily able to give a correct description of this school, for after practising for about twenty-four years as an architect in England, I have retired from practice and employ my leisure in studying the art of sculpture with M. Caniez, an eminent French sculptor, one of the professors of the Geneva school. I am therefore somewhat behind the scenes and can see the ropes and engines of the stage.

Geneva was, and is still, an important centre of the watchmaking trade. It happened that in the early seventies the watchmaking trade was very much depressed, and in 1875 a great number of men were in consequence out of work. In those anxious days the Government of the Republic of Geneva appointed a commission to study what could be done to rescue the national industry, and, if feasible, to create some new industries which could give employment to the unemployed citizens. As the Genevese are a very intelligent and dexterous folk, the committee considered that what would suit the national aptitudes best would be to develop the artistic crafts of Geneva and to initiate new crafts.

In the thirties the Genevese had the reputation of being consummate jewellers. Ruskin in his "Præterita" gives a description of the great Genevese jeweller Bautte, which finishes thus:—"There were no big stones nor blinding galaxies of wealth. Entirely sound workmanship in the purest gold that could be worked; fine enamel for the most part, for colour, rather than jewels; and a certain Bauttesque subtlety of linked and wreathed design, which the experienced eye recognised when worn in Paris or London." I may add to Ruskin's words that very old men, nearer ninety than eighty, still remember Bautte as a genius, and tell of his great feats as a jeweller. In the thirties the art school of Geneva was Bautte's workshop.

In 1875 there was no Bautte to create genial designs and inspire other men. The Government came to the conclusion that a school for applied art must be founded with the view of developing the already existing industries of the jeweller and silversmith, and of initiating as a new industry that of artistic bronze-wares, such as it exists on a large scale in Paris.

On the other hand, there practised at this time in a Birmingham factory an able artist of the name of Salmson. Salmson was a Swede by race, but brought up in Paris. He ranked high amongst the French sculptors; one of his works has been purchased by the French Government and put amongst the art-treasures of France in the Luxembourg Museum. Another is to be found in the Paris Opera House. Salmson had a dream. He thought of restoring the art school and workshop combined as it existed in Mediæval times.

Division of labour is the muscle of money-making, but it is the bane of art. I knew a gifted English lady who used to earn the bread of herself and two daughters by painting Christmas cards. The mother sketched the drawing; one daughter coloured all that was pink, roses especially; the other all that was blue, such as the forget-me-nots. Thanks to this division of labour, these ladies produced ten times the quantity of cards they would have done if each had treated personally the whole of one card. It is needless to say, on the other hand, that the daughters never became artists. A great number of the artistic products which are sold in shops are produced according to a similar system of division of labour. Usually he who designs the decoration of a plate has nothing to do with the processes of firing for fixing the colours. But with the great potters of the Renaissance it was different. Bernard Palissy (1508-89) mixed, moulded, painted and burnt the clay with which he fashioned his renowned wares. Salmson considered that one cannot produce a really artistic design if one does not know the processes necessary for the carrying out of the designed work. Bronze statues are the outcome of other conditions than marble statues. The sculptor has to consider these conditions. Bronze is not brittle, and statues being cast hollow are comparatively light, so there is nothing to prevent a bronze statue standing on one foot, aye, even on one toe, with arms and fingers extended. But in marble such a statue would not stand a day, perhaps not a minute, for the solid weight of the marble body would break the statue at the foot, and the slender extended limbs would be lopped off by any accidental shock. On the other hand, the designer of a bronze statue has also certain limitations to his work which he must consider. When only one copy of the design is required, the bronze statue may be cast *à cire perdue*, which allows the sculptor the maximum of freedom in his design. But when the statue has to be cast in a mould for the production of many copies, as is the case for commercial purposes, then, on account of the shrinking of the metal in cooling, the statue must be cast in parts, which are afterwards rivetted together. A practical sculptor takes into consideration the adjustment of these parts in his design. When a model is being produced for carving in stone, if the sculptor be not a mere modeller of clay, but is exercised in carving stone, he will modify his design according to the stone to be used. He will certainly not make the same design for carving in Bath or Portland stone, in Carrara marble, or in Aberdeen granite. The rule holds good for designs to be carved in wood. The same design is not equally appropriate to stone or wood; even a design adapted for one kind of timber may fail in another kind. These considerations have not merely a practical value, but are of artistic importance; for one of the elements of what we call style, or the distinctive mark of a work of real art, consists in the adjustment of the design to all the material conditions of the production of the work.

The Geneva Government wanted to found a school of art-crafts as a bread-earning machine. Salmson wanted to found a school of art-crafts as an incubator of high-art. How Salmson of Birmingham and the Government of the Republic of Geneva were brought together I know not; but of their union the Geneva School is the fruit.

The peculiarity of the Geneva school consists in the combination of art study with workshop practice, so that a pupil of this school is a practical workman *always*, able to earn in some craft a full wage immediately on leaving the school. On the other hand, he has been well trained in drawing and modelling, so that, if he possesses natural genius, the way is opened to him for becoming a designer, a sculptor, or a painter.

The school was started with three classes:—(1) Figure modelling; (2) ornament modelling; (3) chasing of metals, with the object, as stated above, of developing the silversmith's trade and of starting a trade in bronze art-wares. Personally, the pupils of these classes are very successful, for they find ready employment in Paris, but the school has not had as yet for result the establishment in Geneva of a bronze art-ware trade, nor has it given any greater development to the silversmith industries. This shows that for the creation of a trade other conditions are required besides furnishing accomplished art workmen.

After 1878 two new classes were opened. One was for carving in stone and in wood, the other for fictile art and decorative painting and designing of every description. The latter is divided in two parts; the one comprises sixteen male pupils, the other twenty-eight female pupils. Thanks to the great development of building operations in Geneva, stone-carvers find plenty of employment, so that, from a local point of view, the class of stone-carving has proved a great success, but the wood-carvers have to find employment in Paris. As to the results of the class of fictile art and decorative painting, some local factories of earthenware have been started in which splendid products have been obtained from an artistic point of view, but I am not in a position to say whether the commercial effects are equally brilliant. At all events, the pupils of the Geneva school are eagerly sought after in the famed French potteries of Limoges, in Swiss firms of glass-painting and wall-paper manufacturing. The ladies find ready employment as designers in the embroidery and lace factories of St. Gall.

In 1885 two new classes were again added to the school, the one of art-smithery, the other of wood-engraving. The latter class has since been abandoned, the new processes of photographic engraving having nearly entirely supplanted wood-engraving. But the class of art-smithery has taken a great development, thanks, I believe, to the singular success of a Geneva firm of art-smiths, the Brothers Wanner, who have made a European reputation by the excellence of their art wares. In visiting the class of smiths it seemed to me that some of the pupils were the sons of gentlemen, and I may say that, apart from bread-earning, I cannot conceive any more captivating employment than that of the art-smith. It combines magnificent athletic exercise with playful artistic fancy. I remember, when Venice in London was produced at Olympia, seeing an artist working delicate glassware. We were told he was a wealthy nobleman of old patrician parentage. English gentlemen could do worse than follow the Venetian's lead, but, as a healthy occupation, the work of the smith is far superior to glass-blowing.

About the same time as the above classes were started a workshop for moulding in plaster was established, where plaster-casts are made for all the art schools of Switzerland. This workshop has become also a school of plaster-casting, an operation much more difficult than the public is aware of. This is evident from the prices paid in Paris to the best workmen in this craft; they average from 8*s.* to 12*s.* a day for plaster-casters, whereas masons are paid about 6*s.* a day.

In 1893 the Government authorised the opening of a class of enamel painting, which is limited by law to eight pupils. The reason of this limitation is easily explained. Enamel painting is a Genevese art; its greatest improvements are due to Genevese citizens; its greatest masters are Genevese, such as Turquet de Mayerne (1573-1655), Petitot (1607-91), Bordier, Thouron. This art still flourishes in Geneva, but it has been somewhat debased by shoddy production for trade requirements. The class of enamel painting was proposed in order to raise the level of the art, but many of the enamel painters of Geneva protested against the starting of that class, as it would drain them of apprentices. It is to meet their views that the limitation of eight pupils was adopted.

To complete the general education of the pupils, lectures on the history of art and styles are given, and a library with a rich collection of works on art is provided.

Now it must be well understood that in this school art-training and workshop practice are carried on simultaneously. In the morning, while the pupil is fresh, he attends lessons in drawing and modelling, and in the afternoon he attends the workshop of his craft. With the sculptors, for instance, the lessons begin in summer at 6 a.m.; from 6 to 8 a.m. they attend a lesson in drawing; beginners draw from the cast, the more advanced pupils draw from the nude; from 8 a.m. to 12 they model either from the cast or the nude, or work at original designs according to their ability. In the afternoon from 2 to 6 p.m. they carve ornaments or statues in stone, marble or wood, according to the special craft they wish to follow.

The course of studies covers five years, at the end of which, after special examinations, the following distinctions are granted:—(1) The diploma of the school for exceptional merit; (2) a certificate of capacity. The diploma is obtained by the designing and executing alone in a closed chamber several works.

Positions as student in the school are reserved, first, to natives of Geneva; then, if there be room, to natives of other parts of the Swiss Confederation; and, lastly, to strangers. For all—Genevese, Swiss and strangers alike—the instruction given in this school is free.

The outlay which the school requires is very great, and it has sometimes been objected that it was quite out of proportion with such a small State as that of Geneva, for it must be remembered that the Republic of Geneva has not much more than 100,000 inhabitants—is, in fact, smaller than most of the London parishes. We can only answer that the extraordinary outlay on this school stands not alone, but is characteristic of all the institutions of Geneva. It has a University of more than 1,000 students, of which a small number are natives of Geneva; a school of music started by the famous Liszt and Thalberg, which is attended by more than 1,200 pupils from all parts of the world; and numerous other institutions of instruction at the public expense, on the same great scale as those we have spoken of.

To give to all the clever citizens a chance of having some influence on the doings of the world, the Republic of Geneva is provided with a system of government sufficient for a large empire. We may smile at this extravagance, but, on the other hand, we shall look with respect at the spirit which gives rise to it when we consider what it has achieved. The influence of this little city has been seen in fashioning the religious faith of Scotland, Holland, the United States of America; in inspiring modern democracy through its citizen, Jean Jacques Rousseau; in giving to modern Italy its founder in Cavour, the son of a Genevese lady; to Russia the organiser of its forces, Admiral Lefort, the trusted adviser of Peter the Great; to France the famous statesman Necker, who tried to save the French monarchy; to England one of its heroes, Major André, in honour of whom a tablet has been placed in Westminster Abbey; and many others from the time of Elizabeth to our days, for we have had the late Governor of the Bank of England, Sir August Prévost, a native of Geneva. Besides these, the Republic, small as it is, has given rise to hosts of eminent men of world-wide fame in nearly every department of life: statesmen, military men, financiers, Protestant and Roman Catholic churchmen and theologians, painters—of whom some, such as LIOTARD, are at the head of their specialty—great sculptors such as PRADIER, poets and men of science in all departments. The Royal Society of London has had fifteen foreign Genevese members. The Académie des Sciences de Paris has had thirty-three foreign Genevese members. The Academy of Sciences of Berlin has had eight foreign Genevese members. In short, Geneva is a big brain without a body. Or, if we consider its influence in the world, as demonstrated on a very small scale by the Yorkshire masters coming to find enlightenment here, Geneva is a brain, its body is the world.

OLD WEST SURREY.*

IN one of his essays LEIGH HUNT surprised his readers by announcing to them that he had discovered "the country," and, what was more extraordinary, it was not remote from London. It might easily be supposed he was revealing the secrets of some Dark Continent. HUNT at the time was endeavouring to persuade the homekeeping citizens of London to take an interest in trees and flowers as well as in works of art. He wished to demonstrate to them that a journey of a few hours would bring them into a pastoral or agricultural region, which corresponded with the descriptions in poems, while the expenditure of a couple of shillings would obtain for them a cast of the *Apollo Belvidere*, which in those days was held to be the most perfect example of all art. The advice, however well intentioned, was unfortunate, for it drew down not only on HUNT but on all his associates, including KEATS and CHARLES LAMB, the wrath of many country-born critics. HUNT & Co. were declared to be mere Cockneys, who knew no more of nature than might be derived from the observation of flower-pots supplemented by an occasional visit to one of the parks. As it was expected of a poet that he should be conversant with nature under all its aspects the Cockney school of poetry was declared an absurdity. KEATS especially was made to suffer; but all HUNT's friends had also to bear some share of the penalty. There were, unquestionably, grounds for the assertion that the genuine Londoner of that time was indifferent to the country. Dr. JOHNSON's saying that when one green field is seen all green fields are seen expressed the prevailing belief of many men. Railways and other means of communication have, however, brought citizens into closer touch with rural life, and owing to their influence many of the old characteristics of the people in what are called the home counties are passing away. The trader becomes, as he imagines, ruralised, as if to the manner born; the peasant turns to London in the hope of finding riches.

Changes of the kind are inevitable, being among the results of social evolution; but it is well to possess a record of the time-honoured conditions of life before they have entirely vanished. Scientific expeditions are sent out to describe in detail the manners and customs of savage tribes in order that the information may throw a light upon what occurred in Europe during prehistoric days. With at least as much reason care should be taken to preserve some account of the peculiarities of our own folks who represent a period which is almost at an end. "We who lived before railways," says THACKERAY, "are antediluvians; we are growing scarcer every day." And the pre-railway days, according to him, were those of "stage-coaches, more or less swift, riding-horses, pack-horses, highwaymen, knights in armour, Norman invaders, Roman legends, Druids, ancient Britons painted blue, and so forth." So comprehensive a summary may appear far-fetched, but there is no doubt that the period in which railways were unknown extends backward through a long distance until it touches the abysmal chaos.

The old-worldliness to be found within the memory of men still living in West Surrey is the subject of Miss JEKYLL's book. It consists of recollections of the ways and lives and habitations of the older people of the working class in that part of England. The northern boundary of the district described is the Hog's Back with its eastern prolongation beyond Guildford, and extends to the Weald of Sussex to the south, or, in other words, it stretches from Dorking to Woolmer Forest. The author's object is "to give some idea of the general aspects of the older country life and gear, and possibly to convey to the sympathetic reader some slight impression of their character. They are for the main part the recollections of one individual, refreshed and augmented by recent conversations with a few friends in the immediate neighbourhood." As evidence of the things which were comprised among the environment of the people, illustrations are given of a vast number of objects belonging to the writer and her friends. The majority of them are of a humble kind and inelegant. But if objects derived from South Sea islanders and other races in distant lands are treasured in museums, there is no reason why furniture, tools, ornaments, &c., possessed by people who lived within fifty miles of London should not also be worthy of attention now and at a later time. If the forms are ugly that is evidence of the absence of good taste, and reveals the insufficiency of education. The examples are not, however, offered as patterns.

The first chapter treats of cottages and farms. The author admits that the old cottages are often damp and ill-drained, but is of opinion that for new cottages the old type should be adopted, sanitary improvements being introduced. There is no denying that several picturesque examples are given in the pages. In repairing them, however, a chance always exists of employing materials of a different class which will disturb the picturesqueness. "Ease of communication has brought slates from Wales and fir from Sweden, displacing by their temptation of cheapness the home made tiles and honest English oak of the ancient dwellings." In much else besides the reparation of cottages architecture has to succumb to cheapness. Mrs. ALLINGHAM has utilised some of the cottages for her water colour drawings, but necessarily glossed over many defects which photography reveals, and has also avoided the introduction of much that is representative of our day. Regret is often expressed by Miss JEKYLL for the changes which have been dictated by business. For instance, in describing an old farmyard it is said:—

> The rickyard is fenced off from the pasture by the stout old oak post and rail, good to see in these days of unsightly iron railings. It is the true fence of the country, and a thing of actual beauty in the free play of line of the rails and the slight inequality of the posts. A wooden fence of sawn timber must always be a stiff and soulless thing, but for these fences the posts are simply shaped with the adze and side-axe from the butts of tree-trunks of a suitable size, or of larger trunks quartered, and the rails are also of oak, quartered by rending with the wedge, driven by the axe. It is often a matter of surprise and regret to me when I see in large places, with hundreds of acres of woodland, what appears to be a thoughtless and stupid use of iron railings. These unsightly fencings are wilfully brought into what is perhaps the most beautiful landscape, and always with disastrous effect, while the material for the most suitable fencing is close at hand and wasted. It is usually urged in defence of the iron railing that it is permanent, whereas some day the oak fence must be renewed. But it should be remembered that the labour of the not unfrequent painting with black tar varnish—perhaps the ugliest covering the wretched things could have—is also a permanent charge, and I doubt whether, taking this into consideration, and the original expense of the ironwork and its erection, the eventual balance of cost would not be in favour of the oak post and rail. And what a capital thing is the unpainted oak five-barred gate, with its stout top-rail thinning away for lightness' sake after it has received the slightly-curved stiffening brace. The usual fastening of the older gates was a wooden latch, with the alternative of the iron spring with upright handle topped by a knob, so easily opened by a man on horseback. And how pleasant, both in use and appearance, are the hand hunting-gates, and the oak stiles with the convenient foot-board and the massive rounded rail that by the end of the summer shows a bright polish from the friction of the labourers' corduroys. It is sad to see in place of these sympathetic homely things, made on the place and suiting it to perfection, miles of dull and ugly ironwork from a distant manufacturer's pattern-book.

Landlords and tenants are in favour of iron, for the same reason that the material is adopted in manufactories. It saves space and does not offer facilities for idling. A farm is now, when at its best, only a factory, and it has therefore to correspond with what the new owner has probably seen about him in the place where he obtained the money which enabled him to purchase landed property. The picturesque is not believed to pay and consequently it is neglected. When we consider the unequal battle fought by English agriculturists we must not be too hard upon them, nor insist that first of all they should think of the desires of the followers of Dr. SYNTAX from a distance, visitors who criticise and depart. As long as land is accepted as private property we cannot hope to have it treated with respect as if it were a public building, or that impediments to profitable use should be retained because they are ancient.

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* *Old West Surrey*: Some Notes and Memories by Gertrude Jekyll. With 330 Illustrations from Photographs by the Author. (London: Longmans, Green & Co.)

We must expect that under the influence of such education as is now received by the children of the peasantry in Government schools they will become more indifferent to the houses, furniture and other belongings of their forefathers. That may be pitiful, but it is true and the world will have to accept it. But on that account there will be greater interest found in the descriptions of such a book as the volume on Old West Surrey. It was asserted long ago by MACAULAY that the historian of the future, which he aspired to be, would consider no anecdote or peculiarity of manner or familiar saying as too insignificant if it illustrated the progress of the human mind. "The changes of manner," he added, "will be indicated, not merely by a few general phrases or a few extracts from statistical documents, but by appropriate images presented in every line." That sentence is especially applicable to Miss JEKYLL'S book, with its numerous photographs. Hereafter men will be able to realise from it the condition of life among the English peasantry in one fine district more easily than from any Blue Book. It serves as a supplement to WILLIAM COBBETT'S descriptive writings, and deserves to be placed on the same shelf with the immortal "Rural Rides."

ROYAL ACADEMY AND REFORM.

IN a letter to the *Times*, Mr. John Cooke writes:—I see in the report in your columns of Sir Edward Poynter's speech at the Royal Academy banquet that he said a somewhat "fierce attack" had been made on that venerable body, and that self-interest was perhaps at the bottom of it. On behalf of the committee who drafted the proposed scheme of reform that was so ably voiced in the article which appeared in the *Quarterly Review* last July, and to which you so kindly alluded in your columns, I must protest against the suggestion.

To enable the public to judge between us and to see that it was put forward solely with a desire to see the status of the Royal Academy improved and the profession generally benefited by a wider view of art matters being taken by that body, I ask you to be kind enough to publish the subjoined scheme, which sets forth our ideas of what a Royal Academy of Arts should be.

It is precisely the "anarchy," to use Sir Edward's own word, that exists in the Academy schools, with its multiplicity of contradictory teachers and entire absence of a logical system of training, that suggested the abandonment of them and the substitution of a wider system of examinations and scholarships.

So far from our scheme being advanced as a "fierce attack" on the Academy, it was actuated by a sincere desire to see the Academy rescued from the constantly increasing distrust with which it is regarded in artistic circles, both here and on the Continent, and raised to the position of a body really representative of all that is best in the art of the country.

The names of the committee are appended to the scheme, and they still hope that it will receive more serious consideration than is suggested in Sir Edward Poynter's remarks about it.

SUGGESTED SCHEME OF REFORM.

Constitution.

1. The Royal Academy, as being the representative body of the fine arts in Great Britain, should comprise all artists of repute among their Fellows in every branch of the arts, irrespective of numbers.

2. It should consist of three degrees, as for instance, Associates, Fellows and Royal Academicians

3. Artists should be elected to each of these degrees by the voters of the members of all three degrees.

4. The executive of the Royal Academy should be elected by and from the members of the three degrees, and should represent each of the various branches of art.

5. A proportion of the members of each degree forming the executive should retire in order periodically.

As an Exhibiting Body.

1. There should be two or more exhibitions annually, one of which should be devoted to the decorative and applied arts.

2. Each Associate, Fellow and Academician should have the right to exhibit at least one work in any exhibition, subject only to an ultimate veto of the executive.

3. The number of works any artist, whether a member or not, may submit in any one branch of art, and the number of such works that may be exhibited should be at the discretion of the executive for the time being.

4. For the purposes of selecting and placing, separate committees should be appointed to deal with each branch of art, and no work should be dealt with except by a committee, the majority of which consists of artists practising in the particular branch of art to which the work belongs.

Educational.

1. The Academy should not be a directly educational body by maintaining schools of its own, but being in the position of a university, granting honours, degrees and scholarships, should throw them open to all artists and students throughout the Empire.

2. The Academy should elect a consultative committee, to which all public matters on which advice is requested should be referred.

JOHN COOKE. T. STIRLING LEE.
SELWYN IMAGE. HALSEY RICARDO.
H. RICARDO (Secretary).
13 Bedford Square, W.C.

EXPLORATION AT EHNASYA.

ACCORDING to Professor Flinders Petrie one of the few remaining places at which there was a probability of filling a blank space in Egyptian history was the town of Herakleopolis, now known as Ehnasya (or Ahnas), about 60 miles south of Cairo. That site had been the home of the ninth and tenth dynasties, of whom scarcely anything is known; and there, if anywhere, some monuments of that age might be found. About ten years ago Dr. Naville had uncovered the upper layer of the foundations of a hall of the temple, and removed six large granite columns which lay before that; but no plans or measurements had been taken, none of the building was searched to the base and most of the temple yet remained covered over. As the archæological committee in Cairo has so far declined to let the Fund work at Saqqara on any terms, the Egyptian Exploration Fund had to fall back on Ehnasya for last winter's work.

The uncovering of the temple site showed that the building had been altogether over 215 feet long and 110 feet wide, or between the size of the temple of Qurneh and that of Medinet Habu at Thebes Of the front court the length was traced for 90 feet; it had columns along each of the sides, and before each column stood a colossus of Rameses II., about 24 feet high, forming an avenue of seven pairs of these huge statues. At the back of this court had been the six columns which were recently removed. From this the way led into a great hall, 60 feet wide and 50 feet long, with a roof supported by twenty-four large columns. Behind this again was the sanctuary and surrounding chambers, occupying a space of over 40 feet by 60 feet. Such was the general aspect of the temple in the Ramesside times.

The history of the temple had to be traced out by the various indications of reuse of the site at different levels, and reuse of the materials. From these it was learned that there were two rebuildings after Rameses II., probably in the twenty-third and twenty-sixth dynasties; and there were two buildings before his age, perhaps of the eighteenth dynasty, and certainly of the twelfth. But there was no trace of a temple here earlier than that; and immediately below the foundations of the twelfth dynasty were irregular brick walls and scattered burials, which can be dated to the eleventh or twelfth dynasty by the objects found with them. It seems, then, that the temple of the earlier ages, during which this was an important religious centre, must have been on other ground.

The objects found were not numerous, but two of them more than repay the cost of the work. An exquisite statuette of the local god Hershefi, of the finest anatomical execution, bears on the base a dedication by Pef-dudu-bast, a king of the twenty-fourth dynasty, of whom not a single object was yet known, and it gives his throne name Nefer-ka-ra. This is in England, and will be exhibited in the usual July collection at University College. It was exchanged against some very valuable jewellery, left at the Cairo Museum from a past year's work. Beside this a great group of figures in red granite was found, over 11 feet high and 8 feet wide, representing Rameses II. between the gods Hershefi and Ptah.

In another line some solid work has also been done. Many burnt houses of Roman age were cleared, and can be exactly dated by the coins found in them. They are of various periods from the third to the seventh century A D. And in them were found dozens of terra-cotta figures and lamps, which thus have an historic value. Beside these hundreds of figures and lamps were obtained on this site, and also from the neighbouring Fayum province. From all these the Professor made a complete study of the varieties of Romano-Egyptian lamps, and photographed the series of each type—over 1,000 varieties in all—for publication.

At the close of the season Mr. Currelly made some trials at the great site of Buto in the Delta. But when Professor Flanders Petrie examined the ground it was evident that the whole region had sunk like Alexandria, so that there is now nothing above water-level before Greek times. In Roman days the site had been exhaustively worked for stone, and there were found pieces of the porphyry bowls of the early monarchy strewn on the top of the Roman town, showing what had been destroyed.

Year by year it is more difficult to recover any fresh history; partly because we have now filled up so much that was unknown, partly from the fewness of remaining sites of historic importance. This is seen on all hands; none of the excavators of various parties and nationalities at work have added anything serious to historic knowledge last winter, or, indeed, for some time past, excepting the Fund work at Abydos. The two or three places where fresh light might be obtained are all reserved to other nationalities, and it is hard to see where any reasonable prospect of more historic discoveries is open.

SIR E. POYNTER ON PAINTERS.

AFTER the dinner of the Artists' General Benevolent Institution, Sir E J. Poynter, in proposing the toast of the Society, said that most people were more or less patrons of the arts, from the wealthy buyer who enriched his walls with the pictures of the exhibitions to the schoolboy who decorated his walls with cuttings from the illustrated journals. The army of workers who provided for the gratification of our æsthetic tastes were probably now to be counted by thousands. The number of exhibitors in the Royal Academy alone amounted to over 1,000 this year. The ease with which a very moderate amount of facility admitted of a certain proficiency in the practice of the fine arts brought into the arena a number of competitors quite out of proportion to its rare prizes. The number of exhibitors increased yearly, every town of importance being desirous of having, not only its permanent collection, but its annual exhibitions, thus giving a direct encouragement to production. Then there was an immense increase of illustrated periodicals, and the growing fashion of illustrating novels brought constantly more and more workers into the field; and it was inevitable that a very large proportion of them should earn but a precarious livelihood. Of those who practised the fine arts, perhaps the larger proportion failed to find purchasers for their works. The best way to help an artist was to buy his pictures; but towards that desirable end he would do nothing unless he was of that pushing kind which was rare among artists, beyond putting out the best that was in him. Not all who won the prizes of the profession were proof against the disastrous chances of fortune. Prudence was not a conspicuous feature of the artistic temperament. More than one case would occur to those present of honoured names well known to the public, and once prosperous, who had been glad late in life to avail themselves of the benefits of the Institution. There were those who might say that such cases deserved but little sympathy, as ordinary precautions would have provided against failure; but art was an exacting mistress, and left little time for the ordinary business which occupied so much of the time of other men, and the artist was of a sanguine disposition—he forgot the changes of taste and fashion. Art was the first pursuit which felt the chilly blast from the depressed money market; it was the luxury that most people most easily dispensed with. He forgot also, or more often was unaware of the decay of his powers, until there arose the inevitable generation which knew him not. The blow fell none the less cruelly in that he believed it due to injustice or neglect. Besides such cases as those there was the throng who had never achieved success at all, whom good and prosperous times and the prospect of ample employment had led to take up a profession for which they were not truly fitted and so were led to overcrowd still further a calling in which competition was already severe. Many among them were a total failure or eked out a most precarious and uncertain living. Many passed out of the ranks, leaving widows and orphans whose lives had never been better than a struggle for existence, and who were now destitute for want of the breadwinner who was gone. Thus, from the highest to the lowest, the whole profession of those whose lives were spent towards providing for the keenest enjoyment of which the human mind was capable, the intellectual appreciation of beauty, was peculiarly subject to the most painful changes of fortune, and most commonly this was no fault of their own, unless where an elastic spirit of hope not always to be realised might be deemed a fault. Such cases this Institution was prepared to meet, such misfortunes it was founded to relieve, not indiscriminately, but discreetly, and according to the merit and standing of those who were obliged to apply to it for help; and not the least valuable of the services of the Institution were where it enabled a man to pass through a temporary difficulty, and many a one had in this way been enabled to resume his place and work and pursue a more successful career in the sequel. The average amount given away annually was 4,000*l.*, but considerably over half of the income was derived from the sums collected at the annual dinner. The Council were very conservative of their resources and were sometimes deterred from giving help as amply as they would wish by the desire not to encroach on the provision for a "rainy day."

The subscriptions and donations amounted in the aggregate to 2,900*l.*

HISTORIC HOUSES IN LONDON.

THE Local Government records and museums committee of the London County Council report that in connection with the work of indicating by means of memorial tablets houses of historic interest in London they considered that the residences of Thomas Young, physician, physicist and Egyptologist, at No. 48 Welbeck Street, and of William Hazlitt, essayist, at 6 Frith Street, Soho, should be commemorated. They had verified the facts connected with the houses referred to, and had in each case obtained the necessary consent to the fixing of memorial tablets. Their attention had been called to the fact that Broomwood House (formerly "Broomfield"), Clapham, the residence from 1797 to 1807 of William Wilberforce, the philanthropist, was being demolished. The Bill for the abolition of the slave trade was passed in the latter year, so that the term of his residence at "Broomfield" coincided with the most noteworthy period in his life. There was unfortunately no prospect of the house being preserved, but a photograph had been taken as a record. The committee were considering whether any steps could be taken to commemorate the association of Wilberforce with the district.

EDINBURGH ARCHITECTURAL ASSOCIATION.

A FAIRLY large company of the members of the Association made an excursion to Dunfermline on Saturday for the purpose of viewing the abbey and the new Carnegie baths and gymnasium. At the north porch of the abbey the various changes of style in the group were explained by Mr. Hippolyte J. Blanc, who ventured the opinion that the generally assigned date of 1070 could scarcely be supported, in view of what was known to have been the practice in architecture in Scotland at that time. He pointed to several details as bearing evidence of the structure belonging to the early part of the twelfth century. Special attention was drawn to the doorway newly opened out in the south wall, Mr. Blanc remarking that from the capitals it doubtless formed one of the accesses to the cloister of the original abbey buildings, and expressing the hope that the doorway would be fully opened out. As to the two niches in the north porch, Mr. Blanc thought they were not likely to have been placed as holy water vessels, as was so often assumed, but to have been recesses cut into the wall, probably for the accommodation of offertory plates. The party were afterwards conducted by Mr. Blanc over the baths and gymnasium, of which he is the architect.

FOTHERINGHAY CHURCH.

ANOTHER appeal is made by the Bishop of Peterborough and Lord Lilford for funds to enable one of the most famous and most interesting churches in England to be restored. Fotheringhay Church is not only a magnificent specimen of Perpendicular architecture, but it was for many years connnected with the Royal House, and contains the tombs of Edward and Richard, Dukes of York, thus enshrining memories of Agincourt and of the Wars of the Roses. Fotheringhay Castle also witnessed the last days and death of Mary Queen of Scots. The church is now in a state which threatens to become ruinous. The stonework has in many places split and perished, and the roofs have only been prevented from falling in by the erection of a supporting scaffolding within the church. Mr. Temple Moore estimates the expense of repair at about 7,000*l.* Such an amount is far beyond the means of the poor and scanty population of the parish. The sum of 1,755*l.* has, however, been contributed in the village and neighbourhood.

NOTES AND COMMENTS.

We commend to our readers the new series of *The Engineering Times*, which will be issued from the offices of *The Architect* and *The Builder's Reporter*. The first number appeared on Thursday of last week, and although the contents are excellent, the Editor, Mr. B. H. Morgan, announces that it is only to be taken as an earnest of what he means to do. He has resolved to provide readers with "the latest information concerning openings for trade, new machinery and appliances, and the latest progress in engineering and industrial matters in all parts of the world." The aim will not be considered too ambitious when it is found that arrangements have been entered into "with over five hundred leading engineers and scientists to contribute articles over their names. In order to obtain the very latest engineering and trade news from all parts of the world, over three hundred correspondents have been appointed." With so much available power, *The Engineering Times* should have many advantages for its readers. It has been already tested as a monthly magazine, and its success in that form called for its publication weekly. Among the articles in the first number are :—"The Proposed Dam at Gravesend," by Mr. Wilfrid Stokes ; "The Development of Sanitary Engineering," by Mr. W. H. Maxwell ; "Decimal Measures," by Professor R H. Smith ; "System in Business," by Mr D. Dunlop, &c. There are many diagrams and illustrations and an excellent photograph of a new locomotive. In its changed form *The Engineering Times* appears to possess all the elements needed for a prosperous journal, and the classes it addresses may be relied on to recognise its fitness to serve their interests.

There are some painters who cannot realise the connection between hands and character. According to tradition, Vandyke never cared to observe the hands of any of the grandees whose portraits he was engaged on. He preferred those of a special model. A modern instance of the inability was the late Franz von Lenbach. Let anyone look at a photograph of one of his portraits of Bismarck and it will be observed that the hands, if painted at all, are not only characterless but formless. He might be said to have imitated Claude, the landscapist, who used to tell objectors that he sold his landscapes and gave away the figures in them gratuitously. Lenbach's heads are wonderful and worth their price, but the hands must have been thrown in as of little value. It might even be supposed from the perversity with which they were repeated that he painted them especially for the sake of the critics, in order that they might have some opportunities for fault-finding. Lenbach has, however, made drawings of hands of so much excellence as to suggest there was some peculiar reason for neglecting to paint them properly in his portraits. To the eyes he gave most attention, and sometimes sacrificed features to them. As the son of a builder it seemed probable at one time that Franz Lenbach should also be a builder or an architect. When he entered the Polytechnic School of Augsburg it was with architectural studies he was at first occupied, and his peculiar power in representation compelled the teachers to advise him to follow painting. He began with making votive pictures for peasants. As a native of the Upper Bavarian village of Schrobenhausen, Munich as the capital was proud of him, and it was decided, as soon as the artist died, to have a Lenbach Strasse as one memorial of the great portraitist.

We have mentioned lately that "Bagatelle," the fine property in the neighbourhood of Paris which once belonged to the Marquis of Hertford and then to Sir Richard Wallace, was in the market. It is in the neighbourhood of Neuilly, and the people of that district are naturally desirous that it should become public property. At the time of the first Revolution it was a select restaurant or tea-garden on a large scale, and the grounds are well adapted for such a purpose. The question has been put to the vote of the inhabitants, and an immense majority are in favour of purchase. It is expected that about 8,000,000 francs will be asked for the property, but a much smaller sum would be accepted. The decision rests with the Municipal Council of Paris, who have already an abundance of public places to keep up.

ILLUSTRATIONS.

EYNSHAM HALL, OXFORDSHIRE.
BUCKLEY GRANGE, SHROPSHIRE.
COURT OF THE ROYAL BRITISH PAVILION, ST. LOUIS EXHIBITION.

We illustrate this week three of the works in progress by Messrs. Ernest George & Yeates, the drawings of which are in the Royal Academy.

Eynsham Hall, in Oxfordshire, is for Mr. James Francis Mason, and will occupy the site of the house recently demolished. The mansion is E-shaped on plan, both towards the forecourt and to the south front. Interest is given to the south terrace by arcaded loggia at either end, looking east and west and giving shelter from either adverse wind. The servants' offices are mainly in the basement, and are lighted by wide areas ; while the kitchen, valet's room, &c., are outside the main block, the kitchen having the height of a double storey. In this house the estate office is arranged at one end of the north-west wing, having its separate porch, at the same time being accessible from Mr. Mason's business-room and secretary's room. The house is Tudor in style, with tall mullioned and transomed windows. The roofs are kept low, a pierced parapet forming the sky-line and following in plan the projections of the tall oriel windows which rise to the height of the building. On either side of the forecourt are turrets, one containing stairs, also the boldly projected porch. On the south-west side is an open staircase for ready escape from the nurseries, &c., in the event of fire. Low stone-roofed buildings with open arcades form east and west garden entrances. With symmetry and a studied formality in the disposition of the main walls, there are breaks and variations in the windows and other details to meet the requirements of the plan. Local stone is being used for the building, that for the walling being obtained in the immediate neighbourhood, while the dressed stone is a variety of Taynton, quarried near Stow-on-the-Wold.

Ruckley Grange, Shropshire, is for Mr. John Reid-Walker. It is less formal in its treatment. It has again the south terrace between wing buildings and a forecourt on the north side with a tall porch ; but the irregular roofs and gables of the office wing are here conspicuous, while an important feature on the west side is a colonnaded loggia commanding the principal view from the house. The mullioned windows have flat pilasters and cornices. The building is of stone, that for the walling a local reddish sandstone, while white Grinshill stone is employed for mullions and all dressed work.

Mr. H. Lovatt, of Wolverhampton, is the contractor for this work.

The British Royal Pavilion for the St. Louis Exhibition, also by Messrs. Ernest George & Yeates, affords offices for the work of our Royal Commissioners. The front of this building (not shown on this drawing) is a reproduction of the orangery at Kensington Palace ; the offices are arranged in wings leading from the ends of the latter, thus forming a court enclosed by a colonnade. The fashion of the Queen Anne example has been followed in the brickwork and stonework throughout the building. It is roofed with grey-green American slates, and though a temporary building would be serviceable for a long time to come if required. This work has been admirably carried out by Messrs. Geo. Trollope & Sons, and we believe was the earliest completed of the international pavilions. In the "orangery" portion the original has been faithfully reproduced, the architects adding to it nothing but a fine ceiling. The reproduction of the orangery panelling with niches, columns, pilasters, &c., is by Messrs. Mellier & Co. The surroundings of the pavilion have been laid out and planted very cleverly by Mr. W. Goldring, strictly following the period of the Kensington orangery ; and with its transplanted clipped yews, &c., the garden already forms an interesting feature around the building.

THE KNOLE, BOURNEMOUTH.

We are informed by Messrs. Brewerton & Shepherd, architects, of Bournemouth, that the late J. D. Sedding was the architect of The Knole, of which we published an illustration last week. The property belongs to the executors of the late J. G. Shepherd, whose son, Mr. J. J. Shepherd, is Mr. Brewerton's partner.

THE ARCHITECTURAL ASSOCIATION.

THE concluding meeting of the session of this Association was held on Friday evening last, Mr. H. T. Hare, president, in the chair.

The following were elected members :—Messrs. S. H. J. Murch, A. B. Scarlett, G. B. Cobbett, J. R. Musto, C. B. Cleveland, J. N. Keasley and H. Kershaw.

Mr. A. E. Munby read a paper entitled

The Value of Science in an Architectural Curriculum.

My excuse for introducing a paper upon the subject before you this evening must be that we live in an age of upheavals. Education, as all who take the most superficial interest in it must know, has recently undergone extraordinary changes. In every branch of teaching we see these changes ; the stereotyped methods of learning modern languages have gone by the board, the time-honoured system of instilling mathematics has been shaken to its foundations by the power of the new school of exponents, history and geography are taught upon a rational plan and no longer as an isolated collection of facts, while the claims of science for a place in a liberal education, which ten years ago were ignored by many, are to-day absolutely undisputed. No professional course of training can remain unaffected by these changes in the work which precedes it, perhaps architecture, with its enormous range of subjects, less than any.

Even in the practical training of craftsmen the forward movement is apparent. The strenuous struggle for existence has killed the old-fashioned apprentice, the trades are no longer taught by kicks and rule of thumb, but with some regard to the principles on which they are based. Those of us who have seen anything of the life of London's fifty polytechnic and allied institutions, or of similar institutions in the provinces, to which thousands of men come willingly, often after a hard day's work ; those who have seen how advanced much of such work is and who have noted the zeal and ability of the teachers, must be profoundly impressed with the effect which such advances will shortly have upon the professions. In the youngest of these schools, opened by the London County Council at Brixton two months ago, to be devoted entirely to the building trades, it is even proposed to eventually equip the workshops with a complete set of instruments and plant for tests on materials.

It would, however, be unfair to imply that the professions as a whole are indifferent to these advances. Years ago the medical profession discarded the old system of apprenticeship, organised its educational forces, and gave its members a protected status, with the result that the present system of teaching is far in advance of that of most other professions ; hence the wonderful advances in medicine and surgery which we have seen within recent years, and our advances in pure science, which form the foundation of the advances in its applications, may be traced to a like cause.

Education for the Navy has long been systematised and has recently received a fresh impetus at Osborne. The Army is reorganising its educational methods ; engineers have their splendidly-equipped schools. The legal profession has recently been adding to its educational facilities, and with such success in the North of England that London is following suit, while educationalists themselves now realise that they must be taught to educate. What, then, of architecture ? That its educational facilities are not considered wholly satisfactory seems to be proved by the existence of the Institute committee upon Architectural Education, and we cannot but await with great interest the results of its deliberations.

It is precisely because this matter is *sub judice* that I venture to put before you this evening the plea that science should receive more consideration as suitable food for the architectural student, and allow me to add at once that this suggestion is not in the least at variance with the view that architecture is an art. There is, I believe, a section of the profession which looks upon science with a suspicious coldness, as being destructive of art, as slaying poetic visions with unromantic facts, and as necessarily supplanting a free and living curve with a parabola or an hyperbola. I venture to think that such a view is an unjust one. "Every work of art," says Ruskin, "either states a true thing or adorns a serviceable one," and science gives us both truth and service. If nature herself is the highest art, he who would reproduce her must study natural laws. A painter from life profits by a knowledge of anatomy ; similarly an architect will be more in harmony with his environment if he is conversant with the composition, physical properties and past history of his materials. The materials would then be always selected suitably to the design, and thus science would become the handmaid and not the supplanter of art.

But however this aspect of science may be viewed, there are many direct applications of science to architecture as understood at the present day. Architects are no longer called upon to produce massive and utterly uncomfortable buildings, such as those of Vanbrugh's time. The modern building is full of complications, which, with the advances of science and extended demands for comfort, will increase, and when the contractor has ceased to be a builder, will become more than ever the responsibility of the architect. The arrangements for drainage and water supply, ventilation, warming and lighting, the selection of suitable materials and the display of judgment in dealing with the thousand and one patents brought forward by the building trades, the power of probing the worth of statements in favour of any materials by deciding upon and being able to subsequently understand the various chemical and physical tests to be applied to them, provide indeed a wide field, which, if inartistic, is admittedly within the province of the architect, is by no means devoid of interest or skilled work, and certainly requires the direct application of science.

Let us consider the effect of a *laissez faire* attitude upon these matters. A vast army of industrial workers, becoming every year better equipped in the principles of their trades, is producing novelties which are, broadly speaking, improvements in methods of construction, sanitation and kindred branches of industry which depend upon the building trades for support. These new productions are, of course, put forward with the object of material gain to the makers, but at the same time they are the results of that spirit of emulation and progress which are the characteristics of active life, and are the outcome of the thought of specialists in individual lines. To the architect is offered the crowning position with regard to such industries ; he is the court of appeal as to the success or failure of such advances. If he assumes an attitude of indifference must we wonder, and ought we to complain, that the tide, stemmed by his apathy, finds new outlets, and that the public place in other hands matters which should pass through his hands alone ? It is true that the span of life does not increase with the increased burdens which the profession is called upon to bear. The suggestion that the individual should attempt to give judgment on the new products of every trade would be, of course, impracticable. This difficulty need not plunge us wholesale into specialisation which, if carried too far, would lead to the destruction of the profession as such. It could largely be met by centralisation. The matter was touched upon in a paper read last year before the Association, and the establishment of a general information bureau in touch with the trades, for the collection of statistics, standardisation and testing, would go far towards solving what must some day become a pressing question. This is so large a problem that I should be led away from my subject in pursuing it ; but it is one which, should the collection of data lead to any practical suggestions, might be worthily discussed. In the meantime it is most gratifying to learn that the Institute is in communication with the Director of the National Physical Laboratory with a view to arranging facilities for conducting tests on materials.

It is, of course, easy to generalise on such a topic as this, but to make such generalisations of any value it is essential that they should be supplemented by definite proposals as to courses in science and their bearing in detail upon architecture. Before going into these details it may be of interest to see how far such work is found to be practicable and desirable in various teaching centres at the present time. For this purpose I have made inquiries from a number of institutions in this country and abroad, selecting as far as possible those of university rank. The results of this investigation are contained in a diagram, and I should like to take the opportunity of thanking the professors and lecturers who have so kindly answered my inquiries, in some cases at considerable personal trouble. I am also indebted to the valuable papers of the late Mr. Cates and to the librarian of the Institute for his kindly advice upon several occasions. The centres were selected more or less at random, without any consideration for their predilections for science or the reverse, and the table would have been more complete had not my attempts to obtain details unfortunately proved abortive in more than one instance. The courses dealt with are ordinary architectural and not engineering courses, and the diagram shows the hours per week in the various years devoted to physics, chemistry and geology, under which last heading I have included in one or two instances other branches of science, such as botany. It has not been an easy matter to bring the data collected into line, and I cannot guarantee the figures as absolutely accurate, but I believe they are sufficiently so to show the regard in which science is held at these institutions. While our courses in this country extend over not more than three years, those in America and Germany extend usually over four years, and the total average given in the last column but one is taken on the four years basis for all. Both lecture-room and laboratory work (of which there is a fair proportion) in both pure and applied science are included in the hours given, but no allowance is made for the student's private reading. Under physics I have included such applications as courses on structure, stresses, hygiene and materials, but not courses on ordinary construction or on mathematics.

Hours per Week devoted to Science in Architectural Courses.

	Physics.				Chemistry.				Geology.				Total Average.	Possible % of Science Entrance Examination.
	Years.				Years.				Years.					
	1	2	3	4	1	2	3	4	1	2	3	4		
McGill	5	5	7	5	—	6	—	—	—	—	—	3½	7·9	20
University Coll.	4	13	3	—	7	—	—	—	—	—	—	—	6·8	40
Glasgow Tech.	9	3	—	—	—	—	—	—	—	—	—	—	5·3	0
Bristol	4	6	2	—	4	—	—	—	—	—	—	—	4·0	—
King's College	5	1	½	—	6	—	—	—	—	—	—	—	3·1	—
Manchester	3	1	2	—	—	—	—	—	—	—	—	—	1·5	17
Liverpool	2½	3½	—	—	—	—	—	—	—	—	—	—	1·5	20
Illinois	—	12	3	2½	—	—	—	—	—	—	—	—	4·9	55
Massachusetts	—	5	3	4	—	2	—	—	—	—	—	—	3·5	—
Pennsylvania	3	2	4	—	—	—	—	—	—	—	—	—	3·3	—
Harvard	4	2	3	2	—	—	—	—	—	—	1	—	2·8	—
Columbia	1½	2	2	2	—	—	—	—	—	—	—	—	1·9	25
Dresden	2	5½	2	2½	3	—	—	—	—	3	—	—	4·5	—
Stuttgart	6½	—	1	3½	—	—	—	—	3½	1½	—	—	4·0	13
Charlottenburg	2	1½	2	2	2	—	—	—	—	½	—	—	2·5	—
École Spéciale	1	2	—	—	1	1	—	—	1	—	—	—	1·	—

If we assume that the teaching hours for a student average twenty-six per week, and that his course of training extends in all cases over four years, then the statistics before you will give the following as percentages of his total academic career devoted to science and its applications :—McGill University, 30½ ; University College, London, 26 ; Glasgow Technical College, 20½ ; University of Illinois, 19 ; Dresden Technischen Hochschule, 17 ; Bristol Merchant Venturers' College, 15½ ; Stuttgart Technischen Hochschule, 15½ ; Massachusetts Technical Institute, 13½ ; University of Pennsylvania, 12½ ; King's College, London, 12 ; Harvard University, 10½ ; Technischen Hochschule, Charlottenburg, 9½ ; Columbia University, 7 ; École Spéciale d'Architecture, 6 ; Manchester School of Technology, 6 ; Liverpool University, 6. The omission of the courses of our Association from the above list is due to the different system adopted, which makes a fair comparison impossible. The amount of time devoted to science will, however, be admitted as small.

As showing the value of a training in the principles of science, I will now ask you to allow me to touch in detail upon some of the applications of science to architecture, and at the same time to forgive the necessarily disjointed character of what must be a rapid survey of a very large field.

Physics deals with matter and energy, and, therefore, in its widest sense includes chemistry. In its generally accepted sense, however, it is taken to include dynamics (often called mechanics), acoustics, optics, heat, magnetism and electricity, and we may shortly refer to its branches in this order. The application of the dynamics of solids to constructional work is too obvious to need any discussion, and forms a recognised part of all architectural courses. Lectures on this subject should always be experimental and supplemented by work in a mechanical and testing laboratory, which is the case in most institutions. The value of such a course may extend beyond mere construction—for example, a knowledge of the use of a delicate balance and the appreciation of specific gravity might save a surveyor much time in computing the area of valuable and irregular sites. The dynamics of liquids and gases, on the other hand, generally receive but scant treatment. An architect has constantly to deal with problems involving water supply and the flow of water and drainage in pipes ; he must not suggest a lift pump for a 35-feet well, nor a water turbine without considering his loss of "head" by friction, and he must have an hydraulic ram up his sleeve for country houses blessed with a stream in their grounds. He cannot tackle these problems unless he has an elementary knowledge of the principles of hydrostatics and kinetics. Again, the dynamics of gases brings us to the important subject of ventilation. A knowledge of the relation between the pressure and volume of air, the relative weights of different gases and their expansion with rise of temperature (properly studied under heat) would render many ventilating problems intelligible and interesting, and often point a way to the introduction of ventilation schemes at but little cost. Mechanical fans, now so much used, require more discretion in selection than they generally get, while the ducts and their bends for the passage of air require thought in planning to insure success. The difficulty which sometimes arises in understanding why the heavy gas, carbon dioxide, produced by combustion and breathing vitiates the air at the top of a room can be cleared up by two very simple experiments which you will perhaps allow me to make as an indication of the way in which such a course may be illustrated.

Acoustics is of all the branches of physics the most difficult in its practical application, and probably a deep study of the subject would be of but little value to the architectural student. A knowledge of the velocity of sound in air and the conditions (chiefly depending upon temperature) under which this varies will enable some notion to be desired as to the probable interference by reflection with the voice of a speaker, a consideration too often overlooked in public buildings ; and in these days when we are herded together in flats and attached houses the conductivity of different materials for sound has become a highly important matter. Unfortunately, much research remains to be done upon the application of the laws of sound, but as experiments must be carried out on a large scale to be of value, they are naturally difficult and costly.

A knowledge of the laws of heat finds many applications in architecture. The amount of expansion of materials with rise of temperature is by no means always appreciated. The Forth bridge, for example, is just about one yard longer in summer than it is in winter, owing to expansion, and though architects are not usually called upon to deal with such spans as this, the growing use of long steel joists renders the fixing of such joists often worthy of care. The great coefficient of expansion of lead, nearly three times that of steel, accounts in part for its "crawling" propensities. Joints of materials which expand unequally are never likely to remain sound. For this reason steel and concrete will make a much more permanent joint than steel and brickwork in mortar or cement. In this connection the mass, specific heat and conductivity of the materials must also be considered.

Upon the expansion of liquids depends the whole system of water circulation, and here I would venture to point out the hardship imposed upon good firms in tendering for hot-water plant when the architect does no more than state the temperature to be exacted in the building to be heated, as it is then easy for an unscrupulous firm to give a low tender by subsequently supplying a boiler and furnace which will only give the required result by being worked in a detrimental manner with a forced draught, an easy thing to arrange if the system is ever tested. A rudimentary knowledge of the principles of heat would enable the architect to include in his specification, with but little trouble, sufficient detail to safeguard both client and contractor. A knowledge of the specific heat of materials and their conductivity is useful in problems of warming and fire risks. Again, the melting points of substances are often an indication of their purity. Good mastic, for example, melts at about 260 degs. Fahr., but if it is adulterated with coal tar pitch it liquefies at a much lower temperature. Such an investigation could be made in a few minutes with the aid of a test-tube and a thermometer.

Perhaps the study of optics has less bearing upon an architect's work than other branches of physics, but a knowledge of the laws of illumination would help him to arrange his lights, and the principles of dispersion are of value for the understanding of colour problems. The comparison of the power of different lights is sometimes useful, and for approximate purposes can generally be ascertained after a moment's calculation with the aid of no more apparatus than a foot rule and a stick.

Turning to magnetism and electricity, every architect carries a compass, and a little knowledge of terrestrial magnetism will prevent him from overlooking the difference between the magnetic and astronomical north when setting out his buildings. Electricity, although it has few indirect applications to architecture, is itself of such direct importance that no apology is needed for putting forward its claims in this paper. It is not possible for an architect intelligently to supervise the electric lighting and power arrangements in a building without some knowledge of the principles of this science. It may be said that he is safeguarded by fire-insurance regulations, but he does not always see that these regulations are complied with, and the insurance companies must take much of the work on faith. To an unobservant eye all wiring work appears to be much the same, and although it is on the whole exceedingly good considering the immunity with which it is usually carried out, yet when prices are obtained in competition the contractor would be more than human did he never profit by this independence. Although I am far from wishing to impute this as a general thing, I know at least one firm with a very high reputation which makes a practice of giving its foreman a commission upon what can be saved in carrying out wiring contracts, which appears to me to be a direct incentive to a bad class of work. The trade in electrical sundries is now an enormous one, and some firms abroad who send goods to this country have regular grades of fittings showing a carefully arranged deterioration from the first samples submitted, with the result that there is always a great deal of rubbish on the market, and foreign countries are careful to arrange that such goods do not return by imposing a heavy import duty. I have here a few specimens of good and bad switches, &c., kindly collected for me by the General Electric Company, of Queen Victoria Street, E.C. How instructive would a museum arranged on these lines for all the trades prove to the student.

Chemistry.— Though chemistry has less bearing upon architecture than has physics, the general principles of the science are essential to anyone who would really understand materials. It is often supposed that chemistry is confined to problems of analysis, and I believe people still exist who would dispose of chemists as men who serve in shops and men who analyse minerals and foods. The attitude of this country towards science has not made it possible for the public to realise that the most valuable work in any of its branches is not the mechanical repetition of known processes, but the broadening of the foundations by research, which alone can supply the nursery for useful applications. Chemistry enables us to tell beforehand the changes which are likely to take place in bodies in varying circumstances, and therefore to employ materials suitable to their environment and to know how to set about remedying defects which have arisen through neglect of such precautions.

In the selection of a building stone a knowledge of its composition and physical structure is of great value. The weathering of stone owing to its absorption of water from the atmosphere and the subsequent freezing of this water depends, as is well known, largely upon its porosity and power of cohesion. Water expands by nearly one-twelfth of its bulk on freezing, and though it may be confined, it will still freeze and force the particles of the stone out of place to find room for expansion. A substance would require a cohesive force of about 10,000 lbs. per square inch to prevent confined water within it freezing when subjected to only 10 degs. of frost Fahr.

To illustrate this point I am freezing some water enclosed in a steel bottle, which I hope to show you has been burst in the process.

This expansion of water is, of course, a purely physical action, but the power of ordinary water in producing chemical changes is no less important. It has been said that no one has ever yet seen pure water; ordinarily it may be considered as a weak solution of carbonic acid, and has considerable solvent action upon many stones consisting of carbonate of lime; even marble is not proof against its attacks. A case is cited of a marble monument in Gray Friars Churchyard which decayed to a depth of a quarter of an inch in sixteen years through the action of the atmosphere and water, but this is, of course, a very extreme instance. That carbonate of lime is soluble in water containing carbonic acid gas can easily be demonstrated.

Iron pyrites, which is almost always present in coal, produces on combustion a gas which in our moist atmosphere is rapidly converted into sulphuric acid. Coal contains about 1 per cent. of sulphur, which on combustion produces eventually some 67 lbs. of sulphuric acid per ton of coal. Probably quite 16 million tons of coal are annually burnt in Greater London, and if the whole of the sulphuric acid produced descends upon us in rain and fog, we are annually refreshed, therefore, with some 500,000 tons of this corrosive liquid. Not only does this acid attack stone more violently than does carbonic acid, but it forms compounds in the stone which occupy more space than the original particles, so that the effects are much like those produced by frost. Silica, of which many sandstones are almost entirely composed, is, on the other hand, entirely unacted upon by any atmospheric acids, and therefore a closely-grained sandstone is usually very durable. Rather curiously, an instance has been cited of a defaced monument of sandstone in the same churchyard of Gray Friars, on which the marks of a chisel are visible after more than 200 years. A repetition of the last experiment, substituting silica for carbonate of lime, will demonstrate this difference in solubility.

The action of water upon lead on account of the poisonous nature of lead compounds should be considered in arranging a soft-water service. In the presence of nitrates, often found in potable waters, the action of the water upon lead is quite considerable even after a short period. Finally, as regards water, a water analysis is a first essential in the selection of a country site, and the architect should be able to understand the analyst's report and to advise his client thereon.

As regards other materials used in building, in slates are found two forms of iron sulphide, one of which disintegrates on exposure, while the other is permanent, and therefore harmless. The presence of free lime—that is calcium oxide—in bricks, which is sure to cause disintegration, is very easily detected chemically, and where facing bricks are used in important work I would go as far as to suggest that the brick-maker should furnish an analysis of the coal used for firing, with a view to guarding against that distressing malady, so difficult to cure, efflorescence in brickwork.

The important subject of limes, mortars and cements cannot be understood without a knowledge of chemistry. If analyses of these materials were more generally demanded by architects we should hear much less of bad and bulging plaster, friable mortar and the upheaval of cement floors. The strength of cementing materials should be apportioned to that of the bricks. It is mere waste of money, for example, to build in cement some of the miserable slack-baked London stocks which too often find their way into good-class buildings. Anything under the name of Portland cement generally passes unchallenged, and although adulteration is fortunately rare in this country, ragstone is sometimes added, but can easily be detected under the microscope. Blue lias lime and Portland cement often exhaust an architect's category as regards cementing materials, whereas selenitic mortars, which allow a large proportion of sand, might often be used with economy. Selenitic limes are used chiefly for plasters, but in dry situations deserve an extended use for mortars. Tests made in France indicate that the strength of Portland cement is increased by making it selenitic, *i.e.* by the addition of sulphate of lime, but the careful tests of the British Committee on Cements do not confirm this view. The addition of sulphate of lime, however, to ordinary limes appears to produce a considerable increase in strength. Mr. Redgrave cites tests which show that selenitic mortar has about five times the strength under compression that similar non-selenitic mortar possesses, and the tests recorded by the same writer, carried on during the building of the Law Courts, indicate that between brickwork Messrs. Nelson's selenitised lias lime, used 1 to 5, was more than twice as strong as ordinary lias lime, 1 to 3. If these tests can be relied upon, a remarkable financial saving should be effected by following the precedent set by Mr. Street. The lime and sand for a rod of brickwork in ordinary blue lias, 1 to 3, is worth about 40*s*., and in selenitic lias, 1 to 5, about 30*s*.; but if this latter is really twice as strong as the former it is not merely one-quarter, but more than two and a half times cheaper. Were cementing materials sold by strength and not by weight, such points as these would receive more general attention. The breaking strain of a briquette of cement, without a knowledge of its chemical composition, is often of little value. A cement, for example, containing an excess of lime will come out of test with flying colours, but it is most dangerous to use as it is liable to disintegrate, when of course its cementing power is practically nil. Again, if a cement contains much iron, sodium or potassium, it is almost certainly underburnt, as in this case it could not have been raised to the proper temperature without partially fusing in the process. Messrs. Nelson & Co., of Rugby, have been good enough to prepare a number of briquettes of varying composition, some of which, with your permission, I will break, and subsequently make a reference to one or two simple experiments on the distinction between good and bad mortar, such as would apply to buildings after erection. The testing machine before you is made and kindly lent by Messrs. Faija, of Old Queen Street, Westminster.

The preservation of the metals used in building is often largely dependent upon the substances with which they are in contact. A very small knowledge of electricity and chemistry would point out the extravagance of using any but the purest zinc in a moist atmosphere, and the rapid corrosion which must take place when this metal is left in contact with carbon (as soot or coke, for example), or with copper, iron or lead. The electro-negative character of zinc again renders it open to be acted upon by lime, and therefore to decay in contact with mortar or cement. The oxidation of iron, for similar electrical reasons, takes place in a moist atmosphere with increasing rapidity after the formation of the first film of oxide. The quality of iron, as, for example, the difference between grey and white cast-iron, would be appreciated by a very brief study of the metallurgy of iron and steel.

Turning to timber, the important subject of the impregnation of wood, either for its preservation from decay or against fire, is largely a chemical question; while the compounds contained in wood, such as gallic acid in oak, forming as it does an ink in contact with iron, have often to be taken into account.

The trade of the painter yields a profitable field for chemical inquiry. Though we specify white lead, prepared by the old Dutch process and well matured, we are not in the habit of seeing that we get it. Second quality paints are manufactured on quite a large scale and sold as such; they contain as a substitute for the greater part of the white lead, barytes, chalk, or sometimes other bodies, and these are quite inferior in covering and binding power. Barytes, being a heavy material, is the most suitable adulterant from the point of view of the vendor. Such paints are easily distinguished by merely treating them with nitric acid if in powder, or if, as would more usually be the case, mixed in oil, without the aid of anything further than a wooden match, a piece of washing soda and a sixpence. Further, if such inferior paints are carefully weighed, then heated and weighed again, they will be found to lose much less in weight than would a good lead paint which contains a considerable proportion of combined water capable of removal on heating. If paints with a white lead base are used in a sulphurous atmosphere, such as that of a chemical laboratory, or where bad coal gas is much burnt, they rapidly blacken owing to the formation of sulphide of lead. In such cases zinc white should replace white lead, and for light greens or yellows real chrome green and cadmium yellow. As these paints are more expensive and have to be employed in larger quantity for the same covering effect, they are often adulterated with white lead. This again may be detected with the aid of a mouth blowpipe and a piece of charcoal in two or three minutes without resorting to a professional analyst. Similarly the value of black paint, which should always have a base of white lead if it is to protect the material covered, may be ascertained. In case a blowpipe and charcoal seem to be outside the range of architectural routine, perhaps I may be allowed to repeat the experiment, substituting for them paper and pencil.

I am indebted to the Architectural Association and to Messrs. George & Co., of Hatton Wall, E.C, for the loan of the apparatus used in these experiments.

I will not try your patience by entering further into the applications to architecture of these three sciences which I have selected for illustration, but in referring to geology will content myself by pointing out its great value as indicating the localities and sometimes the probable quantities of various building stones and their planes of stratification or bedding. Not less valuable is some knowledge of this science when the choice of a site, both from the point of view of health and the stability of the building, is in question. In the matter of well-sinking much needless expense has been often saved and superstitious practices averted by a little knowledge of the strata of the neighbourhood.

With a view to obtaining some idea of the amount of existing scientific literature useful to architects, I have during the last few months visited the libraries of the British, South Kensington and Jermyn Street Museums, also those of the Chemical and the Geological Society and the Patent Office, besides that in which we are here privileged to meet, and certainly that of the Patent Office should be placed first, taking the size of the collection, its accessibility and excellent arrangement into account. While text-books on pure science leading up to its applications in architectural work seem to be non-existent, works on the applications themselves are, of course, very numerous, particularly as far as physics is concerned. Chemistry, although touched upon incidentally in many books, is exceedingly scarce in the field we are discussing, and I have only found in these seven libraries six small books dealing with the chemistry of building materials. Of these the most important and suggestive are reprints of the courses of lectures given on this subject at the School of Military Engineering, Chatham, copies of which are not easy to obtain. While no general handbook on geology written for the architect seems to exist, several useful works on building stones may be consulted, and perhaps special mention should be made of the little Survey publication on sites in London, with its geological map, which can be purchased at the Jermyn Street Museum.

On the supposition that some knowledge of science is desirable for an architect, let us turn, in conclusion, to the practical means for attaining this knowledge. Many valuable courses dealing with the applications of science in the manner I have endeavoured to indicate already exist, though in some cases they are very curtailed; but the chief point which I wish to make in this paper is this—that unless some previous knowledge of the principles of science is insisted upon, such courses cannot be properly appreciated, and the time spent upon them must be largely thrown away.

I would venture to suggest that a passage through the following courses should form part of the requirements of an architectural student on the outset of his career:—

1. A general experimental course on physics, including laboratory work, and dealing with the dynamics of solids and fluids, with heat, magnetism and electricity, and very briefly with acoustics and optics.

2. A similar course dealing with the elements of inorganic chemistry, touching upon principles, but chiefly of a descriptive character. Mere analysis to be subordinated to simple quantitative work and the preparation of important compounds. The illustrations of chemical laws being based as far as possible upon those substances which would afterwards figure in a course of applied chemistry.

3. A short course outlining the principles of geology, and dealing with the stratigraphical arrangement of rocks and with petrology, rather than with palæontology, and aided by the examination of museum specimens, such as the collection of building stones in the Jermyn Street Museum and by occasional visits to quarries.

The whole of the above work, in the simple form in which I have it in view, might be undertaken by a person of average intelligence at the age of, say, sixteen, and completed in one year with some twelve hours' teaching per week. This means the devotion of about half a year to pure science, and when a student starts his career early and has no prospect of practising at the end of three or four years, which is generally the case, such time spent on science ought by no means to be grudged. In the case of older students such knowledge might well be demanded of them upon entrance to their studies, since the facilities for teaching science at our public schools could at the present time easily meet such requirements.

I am sure that the help and encouragement to those engaged in lecturing to more advanced students upon the applications of science would be enormous were such preliminary courses insisted upon, and we might hope that these courses upon applied science would themselves grow under these more favourable conditions; but were this impossible, at least much more could be done in the time at disposal.

It would ill become me as a return for your invitation to read this paper, and as such a new-comer into the ranks of this Association, to criticise its educational work. Yet may I be allowed to put the question whether science is sufficiently considered in our curriculum? The Association, with its large roll of eminent members so strikingly in touch with the educational well-being of the profession, occupies a commanding position, and under the new conditions just entered upon cannot fail to attract the attention of all other teaching centres. Do our facilities for teaching the science of architecture compare favourably with those of other institutions? Is it a sign of progress that a course once held upon the chemistry of materials has, for more than ten years, ceased to exist, and that we have nothing in the nature of a laboratory? I am aware that the courses given must be largely governed by the Institute examinations. May we hope that, as the result of the deliberations of the Institute committee on architectural education, science may figure more largely in the preliminary if not in the subsequent examinations? A glance at the requirements of foreign universities shows how much more encouragement is given to science than is to be found here. Cornell, for example, recommends chemistry, physics, geology and a modern language as the subjects for the entrance examination to its architectural courses, and in the final examination for the French diploma the candidate must pass an oral test in applied chemistry, physics and geology. Lastly, considering the large and varied field in which an architect is called upon to work, would it not be possible to allow a student, within properly restricted limits, to develop along lines best suited to his abilities by the introduction of one or two alternative subjects into his later examinations?

Mr. H. STANNUS, who proposed a vote of thanks to Mr. Munby, said they were indebted to him also for the admirable experiments made during the reading of the paper. Mr. Munby had entirely proved his point and shown the importance of science in an architectural curriculum. They must all agree that the more scientific knowledge a man possessed the better his work would be, although it was dangerous in architecture to trust too much to science. There was some truth in the adage, "When science comes in at the door art goes out by the window." It was a good servant but a bad master. As Mr. Munby had said, science was a good handmaid to the architect. Apart from its actual value science induced the student to work methodically, and it also necessitated more method in his training, and required that he should not be taught by the kick and rule of thumb system. That a change was taking place in architectural education was evident; the old method of teaching the student the five orders was an illustration. Years ago the student had to divide the height of a column into so many diameters, and by the multiplication and division of parts master the principles of proportion. He was never taught as nowadays that everything in architecture depended upon the size of the stones that were to be used, and that the size of the parts of the building must be proportionate to the stature of men. In conclusion, the speaker said all education in architecture could not be looked upon as final. The most a teacher could strive for was to equip the young pupil with such knowledge as would enable him to educate himself, for it was when he came in contact with actual practice that his education as an architect began.

Mr. W. H. SEARLES-WOOD seconded the vote of thanks and said they must all recognise that the time which could be given to science in an architectural training must result in a very elementary acquaintance with it, but even so the study of science had a value if it only taught the young architect the limitations of his work.

Mr. A. MARYON WATSON said they agreed that it was scientific method in their work which was needed by the profession. He thought it would be sufficient if the architect had had enough scientific training to enable him to understand the analyses of the purely scientific men with whom their work might bring them in contact. There was a great danger for architects to hold themselves out as scientific men since their responsibilities were sufficiently great when the time came for making out the final certificate for finished work. It seemed most important that a very clear line should be drawn between the architect and the specialist. If during the erection of a building the client wished to have a chemical analysis made of the materials employed, the correct line for the architect, he suggested, was to send the client to a professional analyst.

Mr. F. R. FARROW said the paper emphasised particularly the value of science as a help to the architect in matters actually concerned in building, but he was inclined to think science was of more importance and value to the student as a mental training. It made men practical and methodical in their work, and in the case of the young architect it enabled the student with artistic ability to make such a position in the world as would give him scope to exercise his ability to the best advantage, and for this reason it seemed desirable that science should form part of the Association curriculum.

Mr. MAX CLARKE suggested a man ought to learn hi science when young. Before he entered upon the second or third year of his training he should have a knowledge of acoustics and light. A certain amount of science was absolutely necessary to the architect, but the student might decide for himself how far to pursue the study.

The President said that some amount of scientific education was very desirable and almost necessary in the curriculum for the training of every architect, but it was essential that the grounding in science should be done at school before the youth thought of being an architect. One of the troubles experienced by the teachers in the Association classes was the imperfect education in this respect of the young fellows whom they had to teach, and this meant that the students were often unable to take advantage of the means at their disposal. The cause of complaint would perhaps get less and less, because more attention was given nowadays to secondary education than formerly.

NEW PREMISES OF THE ARCHITECTURAL ASSOCIATION.

On Tuesday the members of the Association and their friends were able to visit their new premises in Tufton Street, formerly known as the Royal Architectural Museum. It was not to be expected that a highly decorated building would be seen. The cost of the necessary work amounts to nearly 9,000*l.*, which is a large sum to be met by a body of students. A good many opportunities remain for the exercise of liberality at a later time. It is an advantage for students to have few distractions in the form of novel decorations, and members of the Association will not be afraid of Spartan surroundings. As now arranged there is ample room for all the business which has to be done. The casts, although available, were not visible on Tuesday. They will of course form an element in the system of construction. They mainly consist of Gothic examples, for when the museum was founded that style was in favour, and it is to be hoped the collection will be largely extended. Before the evening was over the visitors were summoned to listen to a few short speeches appropriate to the occasion.

Mr. H. T. Hare said the work of the Association during the past few years had increased enormously, and with the new premises so admirably planned by Mr. Leonard Stokes, and possessing such excellent light and accommodation for their needs, would afford scope for future progress and development. The new premises contained an excellent library, secretary's office, reading-room, day and evening studios, as well as a meeting-room and lecture hall. There was also the valuable acquisition of the splendid collection of casts, which would be an important adjunct to the educational work. A published balance sheet of the building fund showed that there was still required a sum of 5,347*l.* 18*s.* 2*d.* in order to complete the payment for the building and equipment. He expressed a hope that the profession would do its utmost to reduce this debt, for the Association in the work it was undertaking had the strongest claims for assistance from the whole profession.

Mr. Aston Webb, R A, in the name of the Institute, wished the Association God-speed in its new venture, for the offer of the museum premises had arrived at an opportune time, when the committee were at their wits' end to find a suitable convenient site or building. The Institute had recently formed an education committee, and he hoped the members of the Association would support it in carrying out the unified scheme proposed for the good of the profession and the improvement not only of architects, but also the architecture of the country.

Mr. J. P. Seddon expressed satisfaction at the completion of the alterations to the building, and said he was glad the collection of casts had been handed over to the Association, and under their keeping students of architecture could still derive the utmost profit from the examples.

PROFESSOR VON LENBACH.

On Thursday in last week Professor Franz von Lenbach died at his residence in Munich. The great painter, says the Berlin correspondent of the *Times*, whose professional life had on the whole been crowned by happiness and success, was less fortunate in the circumstances of his death, which was preceded by many months of painful illness.

Franz von Lenbach, who owes his title of nobility to the Prince-Regent of Bavaria, was the son of a stonemason and was born in 1836 at Schrobenhausen in Upper Bavaria. His father wished to make an architect of him and sent him to a technical, or rather industrial, school at Landshut. But from the first his artistic talents began to assert themselves, and when he was thirteen years old he painted his first portraits, his own and that of his brother. His very earliest efforts are said to have attracted the attention of painters of reputation, and although he was for a time compelled to remain at home and to follow his father's occupation, he had established connections which enabled him, on his father's death in 1857, to enter the studio of the Munich painter, Piloty, and to study for a short time at the Munich Academy. He had no private means, but the sale of his first pictures furnished funds for a journey in the company of Piloty to Italy. There he devoted himself with the greatest zeal to the study of the great masters, especially Titian, but he also at this period began to develop his own characteristic style, as exemplified in a celebrated picture of an Italian beggar boy, which, when it was first exhibited, was regarded in its realism as a daring challenge to the neatly finished and smoothly varnished work of the Munich School of Stieler and Kaulbach. About this time Rembrandt became Lenbach's ideal, but he subsequently executed many copies from Rubens, Titian and Velasquez for his friend and patron, Count Schack, in whose collection, recently bequeathed to the German Emperor, these admirable products of Lenbach's earlier activity occupy a prominent place.

About 1858 he was invited by the Grand Duke Charles Alexander to become a teacher at the Weimar School of Art, where about the same time the painter Böcklin and the sculptor Reinhold Begas were working. Although Böcklin took a symbolic view of art, and especially of portraiture, wide as the poles apart from that of Lenbach, the younger painter was from the first an ardent admirer of Böcklin's Titanic genius, and did a great deal to make him known and appreciated in an artistic world where Böcklin's daring conceptions were at first rejected as being merely grotesque. Lenbach did not remain long at Weimar. He returned to Munich in order to accompany his patron, Count Schack, on journeys to Italy and Spain, where he had many opportunities of copying the works of Spanish and Italian painters. At the same time his reputation as a portrait-painter had become established in Vienna and Rome as well as in Germany, and he began to paint that series of portraits which would almost form an historical gallery of the second half of the nineteenth century, so numerous and so eminent were the subjects of his brush. They included Moltke, Mommsen, Minghetti, Döllinger, Liszt, Wagner and the Wagner circle, Helmholtz, Johann Strauss, Gladstone, Pope Leo X, the Emperor William I., the Emperor Frederick, the Regent of Bavaria and Prince Hohenlohe. Lenbach also painted many portraits of ladies, including Signora Duse and Lady Curzon, who went specially to Munich to sit to him only a year or two ago. The portrait of Signora Duse, which has been reproduced, is masterly as an interpretation of character, and is besides extraordinarily graceful in composition. Generally speaking, Lenbach's sketches of women were better than the finished pictures. They were vivid *aperçus*, without any of the heaviness to which his finished works inclined, especially in his later years.

But it was Lenbach's introduction to Prince Bismarck and his subsequent close friendship with the great Chancellor that furnished him with the supreme subject and the highest inspiration of his art. The pictures he has painted of Bismarck must be nearly as numerous as all his other works taken together. He portrayed the Chancellor in the white uniform of the Magdeburg Cuirassiers with shining helmet, in the undress uniform in which he used to appear in the Reichstag, or in the old-fashioned garb of a Prussian squire, his bull-neck encased in the many folds of a tightly-knotted white neckcloth, meditating in his parlour at Friedrichsruh, or resting on a bench in the Sachsenwald. Bismarck's head, and especially his eyes, seemed to haunt the painter day and night, and he was constantly reproducing them. These portraits and crayon sketches are regarded in Germany as a national inheritance which will make the features of Bismarck almost as familiar to future generations as they were to his contemporaries.

The art of Lenbach, although its merits are universally admitted, has not escaped criticism Its great feature was individualisation, in accordance with his own maxim :—"Every human being is unique and has something in him which is not like anyone else." He found this individuality above all in the face, and in his later years he more and more neglected everything else in order to portray the face. In some cases the hands of his figures are mere daubs, while the dress, especially in his portraits of men, is merely adumbrated against the very sombre background. Indeed, the sombre colouring, especially of his later portraits, has itself been a subject of criticism, and he has been described as desiring to reproduce in a fresh painting the dinginess which age and dirt have imparted to the canvasses of the old masters. He even liked his pictures to be exhibited in a very subdued light, and in one of the many exhibitions of German art which he arranged—the German section of the last Paris International Exhibition—he certainly overdid the exclusion of daylight. His arrangement of his remarkable collection in his own villa, which, with his studio, has long been one of the sights of Munich, was certainly far more successful.

Lenbach had become one of the national figures of the German Empire, since he had personal friends among all who were eminent in politics, literature and art. His first wife was a Countess von Moltke, a grandniece of the Field-Marshal. A separation took place a few years ago, and Frau von Lenbach afterwards married the well-known physician of Prince Bismarck, Professor Schweninger. Some of Lenbach's finest paintings represent Manon, the charming little child of his first marriage. The magistrates of Munich have determined to accord Lenbach a public funeral, and will also provide the place of burial with a view to the ultimate erection of a monument.

ARCHITECTURE IN NEW SOUTH WALES.

In the report of the Government architect of New South Wales for last year it is stated that the expenditure was 277,435*l.* Mr. Vernon adds:—

The work during the year for the State has been gradually decreasing, and comparatively speaking, few new works of any importance have been entered into. The buildings finished during the year, as before enumerated, have been carried out with every regard to economical planning, modern requirements and architectural simplicity and good taste. The court-house at Wagga Wagga may, I think, be instanced as a standard for buildings of this character in a semi-tropical climate.

The few, comparatively speaking, large undertakings of the year were commenced principally under the day-labour system. Amongst these may be mentioned the new Inebriate Institution, Hawkesbury River; the new Female Prison and Penitentiary, Long Bay; the new "Fisher" Library; and the Prince Alfred Hospital pavilions. In connection with day labour, and more especially as applied to the latter of these buildings, an unsatisfactory condition of affairs has arisen, which has jeopardised the control by the department, and has led to representations being made relative to the excessive cost of the stonework. After due consideration, the Public Service Board commenced an inquiry early in May, with the prospect of its continuing for some months before a decision could be arrived at. The officers of this branch are necessarily much interested in the result of the inquiry.

There has been the same consistent endeavour, as in previous years, to keep pace with the requirements of the numerous buildings under the care of this branch, in order that they may be protected from deterioration and kept up to necessary requirements.

I have, however, still the same report to make as to the inadequacy of the votes, and regret that the saving on the vote before alluded to could not have been utilised in this direction.

The branch has been actively engaged in carrying out a large number of works for the Federal Government, as per schedule attached, and included in the foregoing statement.

Arrangements have been entered into between the two Governments, including the charge of a fixed commission of 6 per cent., covering all professional charges excepting special supervision, in connection with these operations. It will be readily seen that where contracts for substantial improvements, &c., have been entered into, this arrangement is a satisfactory one, but it can hardly be called such in connection with the large number of minor repairing works the branch is called upon to undertake. Towards the end of the year there were indications that the Federal Government intended itself to carry out some of the larger works, thus reducing the State commission on expenditure on the more profitable part of the arrangement.

I understand that satisfaction has been given to the Federal Government, and can report that the officers engaged in these works have been unremitting and untiring in their care and attention to the demands, and have done their utmost to assist in expediting and simplifying what at first promised to be a somewhat complicated system of accounts and correspondence.

The general work of repairs and improvements to the sanitary conditions of the buildings and tenements on the property known as the "Rocks Resumptions" has been steadily progressing during the year, and upwards of 1,000 houses have received much-needed attention. This district may now be considered, considering the character of its buildings, at least equal in sanitary conditions to that of other city districts.

At the Annual General Meeting of the Surveyors' Institution held on May 9, Mr. Sydney A. Smith, of 22 Chancery Lane, was appointed honorary secretary in place of Mr. W. T. Walker, who retired on reaching the age limit. At the ordinary meeting which followed Mr. Smith read a paper to a crowded audience on the subject of the "Junior Surveyor," which was followed by a good discussion.

TESSERÆ.

Influence of Celtic Art.

The arts in which Christian Ireland excelled before the thirteenth century were the working and ornamentation of manuscripts, metalwork, stone-cutting and building. It is therefore particularly those practising these handicrafts in the present day who will gain advantage by a close study of such of these ancient writings, relics and monuments as have through the energy and learning of antiquaries been discerned and preserved for our instruction. Two distinct benefits may be drawn from this pursuit, the first being the development among illuminators, goldsmiths and stone-cutters of a higher standard of technical execution, of precision and delicacy of finish, than exists in the present day; the second and larger benefit, that of indicating to the designer or architect where he may find the salient points in works of ancient Irish art which distinguish it from that of other countries, which give it native character, and which, when once fully seized, he can seize and graft upon his own design. Thus he is enabled to take up the threads of the too early broken web of his country's arts, and weaving them into his own work, he can add the distinction of an individual and native character to the forms of its future development.

Japanese Houses.

One of the chief points of difference in a Japanese house as compared with ours lies in the treatment of partitions and outside walls. In our houses these are solid and permanent, and when the frame is built the partitions form part of the framework. In the Japanese house, on the contrary, there are two or more sides that have no permanent walls. Within, also, there are but few partitions which have similar stability; in their stead are slight sliding screens which run in appropriate grooves on the floor and overhead. These grooves mark the limit of each room. The screens may be opened by sliding them back, or they may be entirely removed, thus throwing a number of rooms into one great apartment. In the same way the whole side of a house may be flung open to sunlight and air. For communication between the rooms swinging-doors are not necessary. As a substitute for windows the outside screens, or "shoji," are covered with white paper, allowing the light to be diffused through the house. Where external walls appear they are of wood unpainted or painted black, and if of plaster white or dark slate coloured. In certain classes of buildings the outside walls, to a height of several feet from the ground, and sometimes even the entire wall, may be tiled, the interspaces being pointed with white plaster. The roof may be either lightly shingled, heavily tiled or thickly thatched. It has a moderate pitch, and as a general thing the slope is not so steep as in our roofs. Nearly all the houses have a verandah, which is protected by the widely overhanging eaves of the roof, or by a slight supplementary roof projecting from beneath the eaves.

Building Lines and Chiaroscuro.

There are, properly, no such things as lines in nature, but the word is used by artists solely with reference to art—that is, to the appearance of lines which is produced by forms, and to the necessity of beginning with lines in all graphic delineations of objects. If the forms of a composition are as they ought to be, so also will be the lines. The consideration of lines therefore may be viewed as the treatment of forms in the abstract, or as an assistance to us in the composition not only of forms, but even, as will be hereafter seen, of lights, shadows and colours; since every thing which has length and breadth is necessarily bounded by lines. As in every building that constitutes a whole, there are certain prevailing forms, so there will also be found in the same building a prevailing character of lines. Where the parallelogram is chiefly laid on its broad side, there the horizontal lines will prevail; where it is chiefly placed on its end, or where the cylinder or round tower is the principal form employed, there the prevailing lines will be perpendicular. Oblique and curvilineal lines are seldom found in buildings except as indicative of roofs, and these roof lines in all harmonious structures will be found to have one prevailing tendency. If they are straight lines then their degree of obliquity, or the angle which they form with the horizon, will generally be found to be the same or nearly so throughout. If they are curvilineal they will for the most part be either segments of circles, or, if not of circles, of ovals or of ellipses, having the same transverse and conjugate diameters. A very extensive composition, however, may in its roof lines combine straight, oblique and curvilineal lines, though this cannot be done without producing discordance or incongruity in small buildings. The lights in an elevation are produced by the breadth and the prominence of the forms, and the shades by the recesses and by horizontal and perpendicular projections. Considering the lights produced in a composition in an abstract point of view, they ought to form a whole independently of the shades, of the forms or of the lines. Thus there must be one prevailing form of light in every structure, and this will naturally result from one form prevailing more generally than any other and from one general tendency of the lines. In an abstract point of view there must be one prevailing form of shade, and this in its turn will depend on the prevailing form of light. In buildings where the perpendicular forms and lines prevail their perpendicular lights and shades should be prevalent, and in those where horizontal or oblique lines are most conspicuous the lights and shades will follow the same direction. In analysing the elevation of a building, we shall find it possible that the forms and the lines may be in harmony, without that harmony extending to the lights and shades ; thus, suppose the parallelogram form to be prevalent, and the building to consist of a number of long narrow parallelograms set on end, joined by broad parallelograms set on one side : the effect may be good, considered merely with reference to forms and lines, but if all the projections are at an equal distance from the main body of the building, then all the lights on these projections will be equally clear, and all the shadows produced by them equal in width and depth of shade. But to produce a whole it is requisite not only that some of the projections should be broader than others in order to give main features of light, but that some of them should exceed in projection as well as in width, in order to give shadows exceeding in depth.

Japanese Carving.

Japanese carving is divided into three kinds—shallow, deep and pierced. In the earlier work, such as the bronze tombs and gates of the early Shoguns, the relief is very shallow, but sharp and effective. In the latter work nearly all carving upon the outside, such as on screens, gateways and cloisters, is pierced in parts, being cut in a thick slab of wood, so as to be viewed from either side. A striking feature of the sculpture of this kind is the extremely careful imitation of natural leaves and flowers, which are carved with a delicacy and truth which is little short of marvellous. Fruit is gilt, with red dashes of colour showing the ripeness, and the greens in colouring the foliage are varied in their tones. The deep carving occurs mostly in the interior of buildings where depth of effect is required, but at the same time there is no communication with the outer air, which would be obtained if pierced carving were used. The side panels to the gateway at Shiba are filled with thick slabs of wood carved in the form of writhing dragons of wonderful design and execution, cut right through, so that the design may be seen from either side. The immense variety of their conventional treatment of birds and flowers, fish and water, is as great in carving as in painting.

Roman Halls.

When individuals at Rome acquired great wealth by robbing the distant provinces, and other measures of a similar kind, toward that period, when luxury with such rapid strides paved the way for the downfall of the empire, large apartments were sometimes necessary for the accommodation of the numerous guests who were assembled together to participate in the sumptuous entertainments of the affluent. We cannot now correctly trace by what devices they were enabled gradually to increase the size of these apartments till they reached their fullest perfection in this respect ; but, by the writings of Vitruvius and others, we are made perfectly acquainted with the form and internal decoration of those apartments which were reckoned to excel all others in elegance and grandeur, when the Roman empire had reached the zenith of its wealth and power. These apartments Vitruvius has accurately described and delineated under the denomination of Egyptian halls (probably because the first apartment of that kind had been erected by Mark Antony, in Egypt, for the sake of Cleopatra, of whom he was so deeply enamoured) ; but, wherever this kind of saloon was first built, or by whom invented, it is evidently nothing more than an awkward attempt to introduce the Grecian colonnade into the inside of an apartment, in which situation it loses all its original beauty and utility, and has the inconveniences to which it was subjected without doors greatly augmented. Yet even this innovation, because of its novelty and the superior size and splendour of such saloons, when compared with those which had been formerly in use, was applauded at the time as a most sublime improvement in the art. Long after many models of internal structures, infinitely more perfect in their kind, had been invented and exhibited in every country of Europe the infatuation was so strong as to blindfold a man of the first eminence in this kingdom for taste and many other acquirements to such a degree as to make him believe that no other mode of internal arrangement which had ever been devised could, in any degree, be compared with this in respect to elegance and grandeur. The Earl of Burlington, so well known for his taste and architectural acquirements, actually conceived the idea of building an assembly room at York on that model, and had influence enough to get it erected and finished to his own taste, according to the original design furnished by himself. The room when finished obtained, as was to be expected, the most unequivocal approbation of connoisseurs and was imagined to be an unexceptionable model of the chastest style of elegant Grecian architecture. The people praised it, as they had to, or be accounted destitute alike of knowledge and of taste, but everyone in his heart thought it was a dull and heavy building. In course of time one person ventured to whisper to another in private his sentiments concerning it, and they soon found that others had felt as they had done. It was, however, tolerated for many years, more on account of the expense it had cost and the difficulty of finding another in its stead than from any other consideration. But at last the disgust to it became so universal and so strong that it could be no longer endured ; and, notwithstanding the expense, it was at last abandoned and another room erected in its stead that was thought to be much better suited to the purposes for which it had been originally intended.

Mouldings in Architecture.

A moulding is the architect's means of drawing a line upon his building. If he desires to mark on the exterior the position of an internal floor, or in any other way to suggest a division into storeys, a moulded string-course is introduced. If he wishes to add richness and play of light and shade to the sides of an important arch, he introduces a series of mouldings, the profile of which has been designed to form lights and shadows such as will answer his purpose. If, again, he desires to throw out a projection, and to give the idea of its being properly supported, he places under his projection a corbel of mouldings which are of strong as well as pleasing form, so as to convey to the eye the notion of support. Mouldings, it can be understood, differ both in size and profile, according to the purpose which they are required to serve, the distance from the spectator at which they are fixed, and the material out of which they are formed. In the Gothic periods they also differed according to the date at which they were executed.

Correspondence

[*The Editor does not hold himself responsible for opinions expressed by the writers.*]

Statutory Qualification and the R.I.B.A.

SIR,—In view of the circular letter, dated the 5th inst., issued in the name of "The London Committee of Members of the R.I.B.A. for promoting the statutory qualification of architects," with a list of names approved by that committee as candidates for election to the Council of the R.I.B.A , will you kindly permit me space in *The Architect* to state that, although my name is included in that list, and although, as I at present view the subject, I am in favour of the principle of statutory qualification, I am, nevertheless, under no pledge to any person or party, and as to the future I reserve absolute freedom of action and discretion in dealing with the subject.

In any case, it appears to me much to be regretted that this question should have been raised as a party cry in the election of the Council at this time, and in advance of the report which we are awaiting from the committee of the R.I.B.A. upon it. I would add that had I known beforehand the nature of the circular letter as issued and expressed, I would on no account have permitted my name to appear in it.—I am, Sir, yours obediently, WM. H. ATKIN BERRY.

25 Old Broad Street, London, E.C. :
May 11, 1904.

"Thank Heaven ! we have a House of Lords."

SIR,—The note in your number of last week was a particularly suitable one. We owe to Mr. Howard Colls a depth of gratitude for his firmness and pluck in carrying this case to the House of Lords. You suggest in that article that Mr. Howard Colls should be supported financially against the great expense he has been put to. From what I know of Mr. Colls, I do not think he would appreciate it. But if some presentation to mark our gratitude to him were undertaken, I should have the greatest pleasure in forwarding my mite. In a case like this, surely the R I.B A. might step forward and assist.

Apologising for trespassing on your space.—I am, yours faithfully, ARCHITECT.

Old Buildings near Manchester.

SIR,—With reference to the letter in your last week's issue, I have just seen a copy of the work issued by the Manchester Society of Architects. It is an interesting and valuable list, and I trust that our own Yorkshire body will follow such an excellent example. I am hoping to send one or two items to our Lancastrian friends.—Yours faithfully,

WHITE ROSE.

R.I.B.A. Council Elections.

SIR,—I have read Mr. Beresford Pite's communication which appeared in a contemporary of May 7. In sum and substance this letter would appear to be a condemnation of the custom of canvassing members of the Institute in favour of particular candidates for Council. Through this translucent film of condemnation the most casual reader will perceive an unblushing appeal in favour of candidates who are "not earnest advocates of one particular policy." Amongst such candidates Mr. Pite is, of course, included. Only once before in the history of the Institute has such a personal appeal for votes been made by any particular candidate. Here surely is canvassing out-canvassed. Mr. Pite has sounded *le dernier cri* in electioneering tactics. In alluding contemptuously to "planks" and "platforms," the Professor seems to forget that he himself has unsuccessfully "stumped" the provinces on the anti-registration "ticket," leaving the allied Societies, at least such of them as consented to hear his views, with the same opinions as they previously held.

The general qualifications which members of Council should possess are not necessarily denied to those who may be earnest advocates of the particular policy which Mr. Pite regards as forming a minor part of the work of the Council, which, by the way, should not be an idealistic assemblage inert in a crustaceous covering of doubtful dignity, but a body politic formed first and chiefly to deal with affairs.

Without hope of ever reaching that high level of ingeniously ingenuous canvassing to which Mr. Pite has attained, I nevertheless make an unsophisticated appeal to the electors to vote for such candidates as have declared their intention to carry into effect without delay the very and most particular policy of the statutory registration of qualified architects.—I am, Sir, yours faithfully, BUTLER WILSON.

May 7, 1904.

Roman Mortar.

SIR,—During the month of October 1903 a portion of the city wall of Roman London was uncovered by the workmen engaged in digging out the foundations of Newgate Prison, demolished to make way for the buildings of the new Central Criminal Court. Some mortar from this piece of wall has been analysed by the writer. The results obtained are stated below.

In 100 parts by weight of the air-dried mortar :—

Water lost at 100 deg.	3·27
,, ,, 170 deg.	1·35
Sand and grit—	
Coarse	58·09
Fine	2·30
Silica soluble in acid	6·67
Carbonic acid	6·94
Chlorine	0·12
Sulphuric acid	0·39
Lime	11·68
Calcium	0·05
Magnesium	0·01
Iron oxide	2·62
Alumina	2·12
Organic matter and difference	4·39
	100·00

These components may be combined as follows :—

Calcium carbonate	15·77
,, silicate	5·35
,, sulphate	0·66
,, chloride	0·13
Magnesium chloride	0·05
Iron silicate	4·81
Aluminium silicate	3·26
Sand and grit	60·39
Soluble silica (uncombined)	0·57
Water (100 deg.)	3·27
,, (170 deg.)	1·35
Organic matter and loss	4·39
	100·00

It will be observed that there was no free lime, and that a large proportion of the total lime was carbonated. Notable also is the amount of calcium silicate. Mere traces of alkalies were present. The separated sand particles were mostly coarse and somewhat angular.

An analysis of Roman mortar from another part of the wall, discovered during excavations for the new Post Office Buildings in St. Martin's-le-Grand, was made in 1888 by Mr. John Spiller, F.I.C., F.C.S., read before the meeting of the British Association held at Bath in that year, and reprinted in the *Chemical News* (vol. 58, p. 189). It has been thought by the present writer that it might be of interest to place on record also a brief account of the composition of mortar from that part of the wall most recently brought to light.

EDWY G. CLAYTON, F.I.C., F.C.S.

Chemical Laboratory,
32 Holborn Viaduct, E.C. :
April 20, 1904.

GENERAL.

An Archæological Cruise round the Irish coast for members and friends of the Royal Society of Antiquaries of Ireland will start from Belfast on June 21, and will arrive at Kingstown, near Dublin, on June 29. Nearly the whole of the Irish coast will be passed, and there will be landings at many places of antiquarian interest. The rates will vary from ten to twelve guineas.

Mr. Thomas Holroyd, an artist living at Harrogate, bequeathed his pictures and collections of art curios and treasures to the Corporation of Harrogate as a nucleus for an art museum.

The Painting by M. Tony Robert Fleury, *Anxiety*, in the Salon, has been purchased by the French Government.

A Notice under the Metropolis Management and Building Acts Amendment Act was served on the owners of Drury Lane Theatre on the 26th ult. ordering structural alterations to the building. The London County Council have received an intimation that the directors of the theatre will appeal against the notice. The First Commissioner of Works will appoint an arbitrator to hear the appeal.

The Rev. Newton Mant, M.A., F.S.A., will lecture on "Some Examples of Italian Architecture" before the Society of Architects on Thursday next at Staple Inn Buildings.

M. Claude Monet, the French impressionist painter, has completed about thirty views of the Thames, which will shortly be exhibited in Paris. He was especially fascinated by the peculiarities of the sky in London.

The Pretoria Town Council have declined an offer by a gentleman to erect a town hall and offices and to lease them to the Pretoria municipality, with option of purchase.

M. Paul Lefort, one of the French official inspectors of art, and who wrote several books and essays on Spanish painters, died a few days since in Paris.

The Loan Collection of Irish pictures, &c., will be opened at the Guildhall Art Gallery by the Lord Mayor on Monday, the 30th inst.

The Netherlands Government, it is stated, has raised an objection to the site chosen in The Hague for Mr. Carnegie's Palace of Peace, on the ground that the erection of a building on the spot chosen would detract from the picturesque nature of the surroundings.

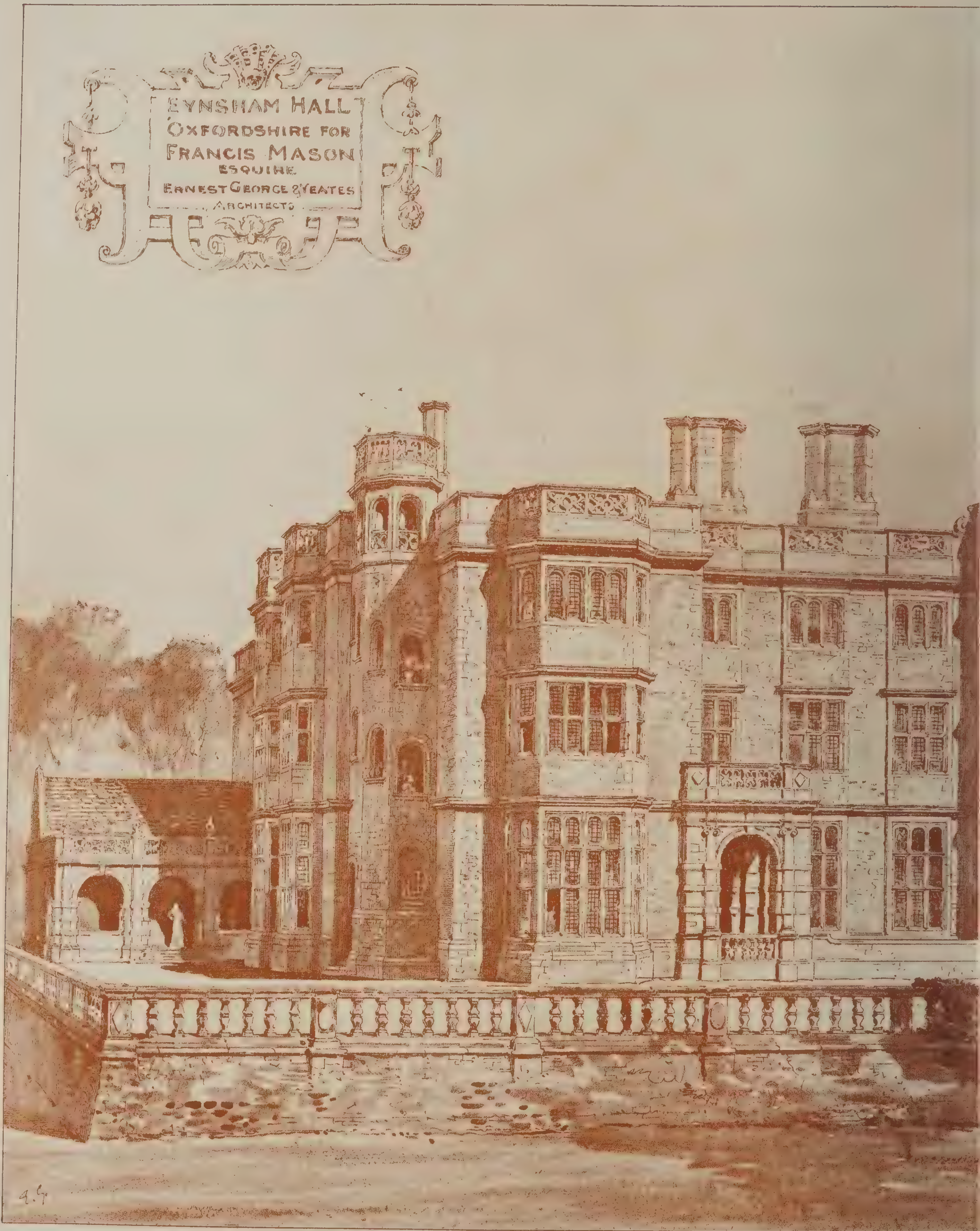
Mr. George Handyside, a prominent builder in Newcastle, has died leaving property valued at nearly a million sterling. He bequeathed about 100,000*l.* to charity. Before entering the building trade he worked up a big boot business. He then speculated successfully in property, acquiring valuable estates in and about Newcastle. Nearly all his life he lived in the small house, built by himself, in which he died.

Sir William Arrol & Co. have been awarded the contract for the construction of three bridges across the Nile near Cairo. Two of the new bridges will be only about 90 and 70 yards long, but the third will be 600 yards long and 65 feet broad. The competition was international, and the work is of the value of about 200,000*l.*

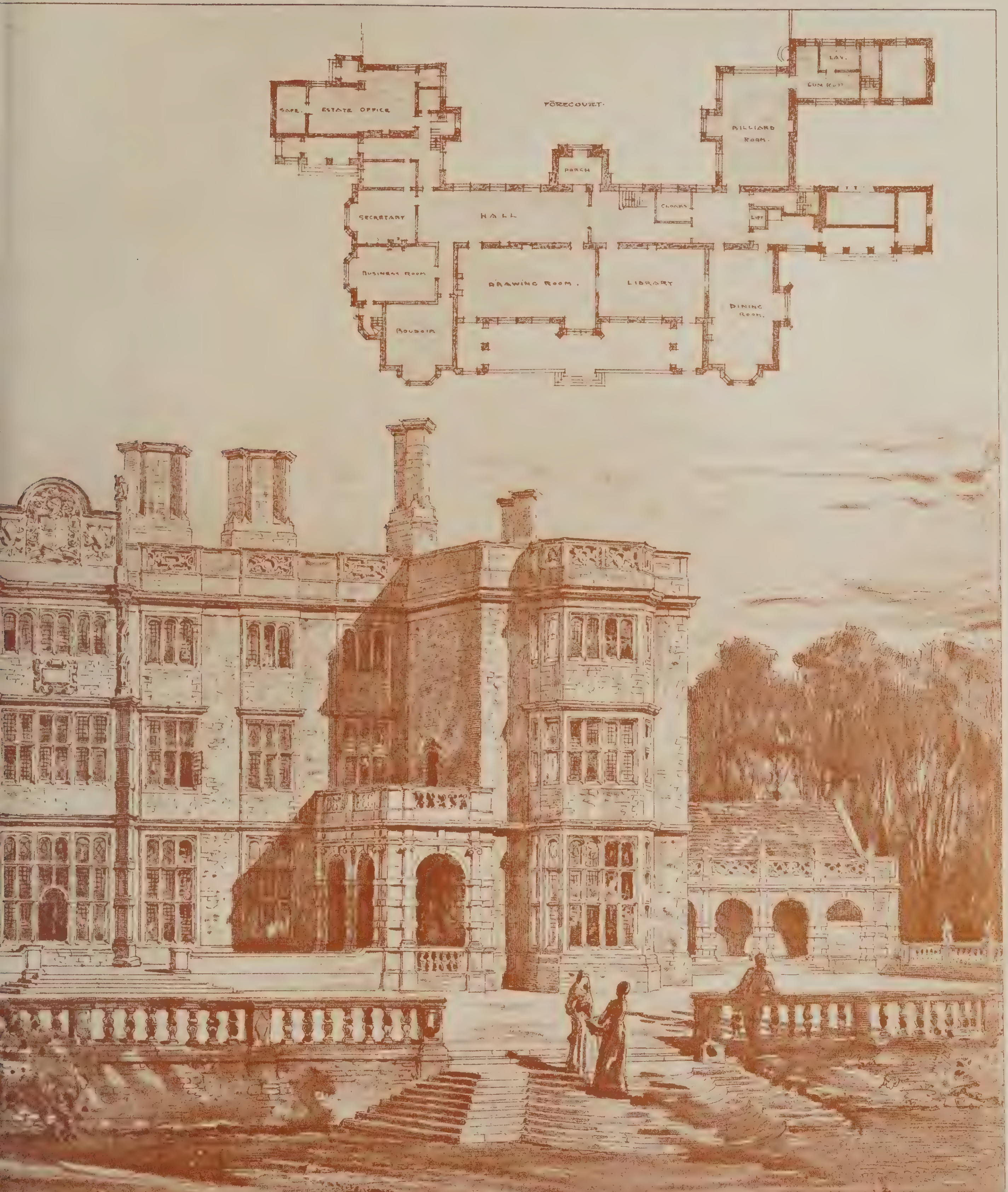
The British Fire Prevention Committee are enabled, through a donation from a Canadian member, to offer the committee's gold medal and a purse of 20*l.* for the best fable for children calculated to serve as a warning against the danger of playing with matches or fire. The competition is open to British subjects. Two silver and four bronze medals will also be given.

The Portsmouth Town Council have accepted a scheme prepared by Mr. Harris (of Messrs. Bramwell & Harris, engineers), successor to the late Sir Frederick Bramwell, dealing with the prevention of flooding in the low-lying area of Southsea. The estimated cost is 25,000*l.* The works will be capable of extension at an additional cost of 25,000*l.*

The Directors of the British Uralite Company, Ltd., offer to draughtsmen fifty guineas in prizes for the "best original designs or practical suggestions for fixing Uralite in building construction work" The offer is in keeping with the conduct of the directors from the starting of the company. They have shown themselves to be desirous of meeting the wishes of architects, and if draughtsmen can discover any improvement in the manner of applying the excellent material it will be rewarded. It is an opportunity for the display of practical skill.


EYNSHAM HALL
OXFORDSHIRE FOR
FRANCIS MASON
ESQUIRE
ERNEST GEORGE & YEATES
ARCHITECTS

May 13th 1904.



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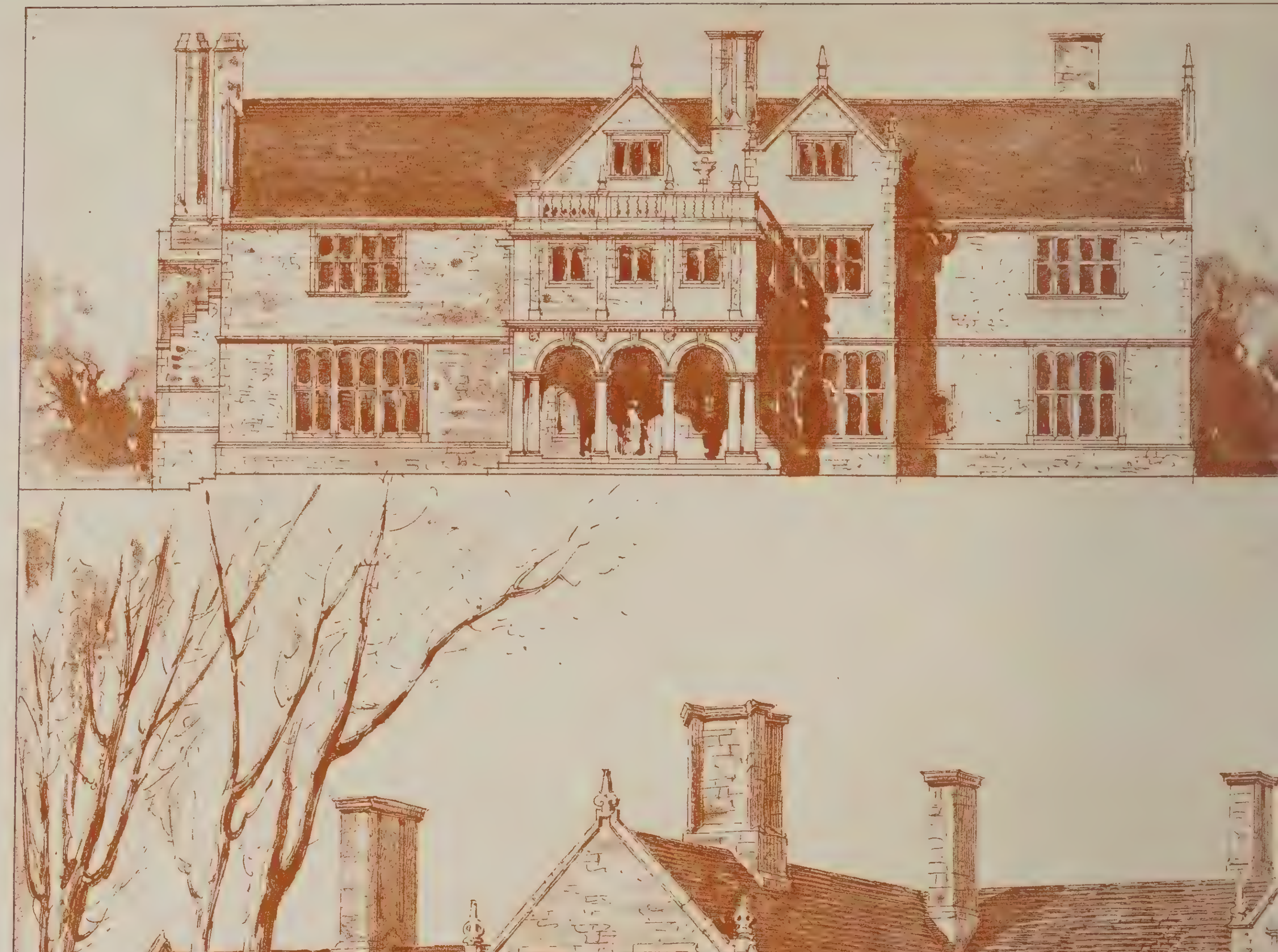
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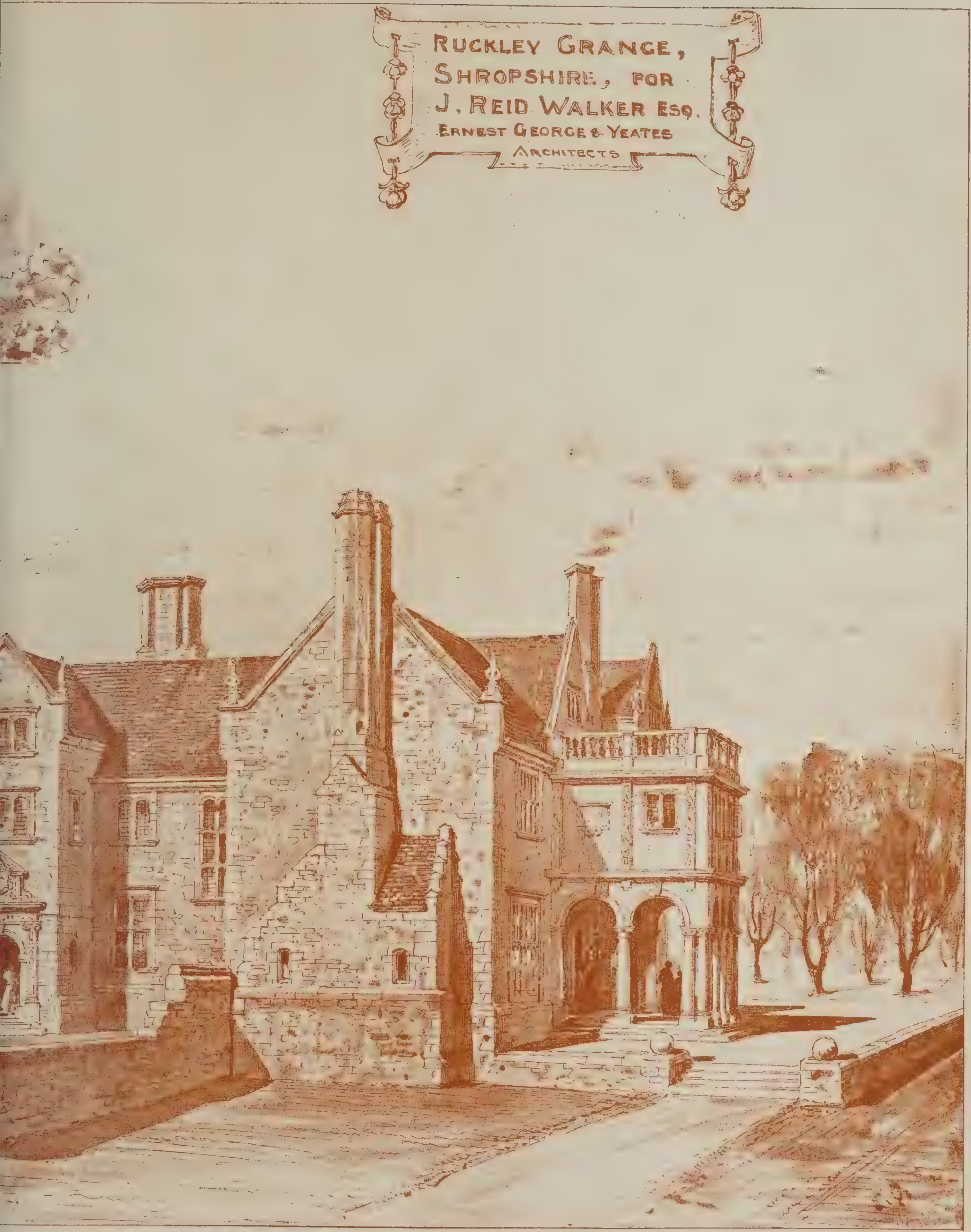

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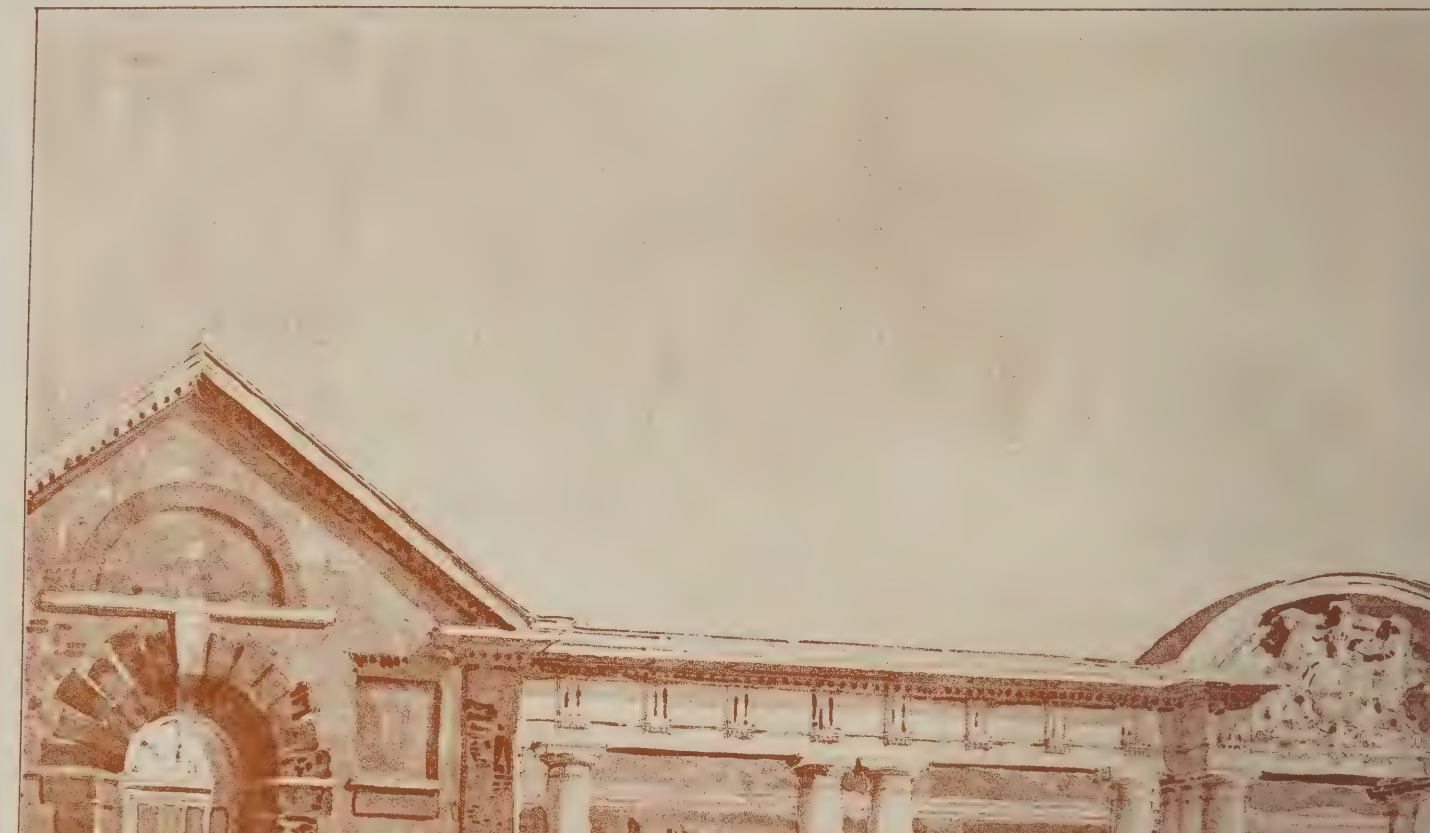
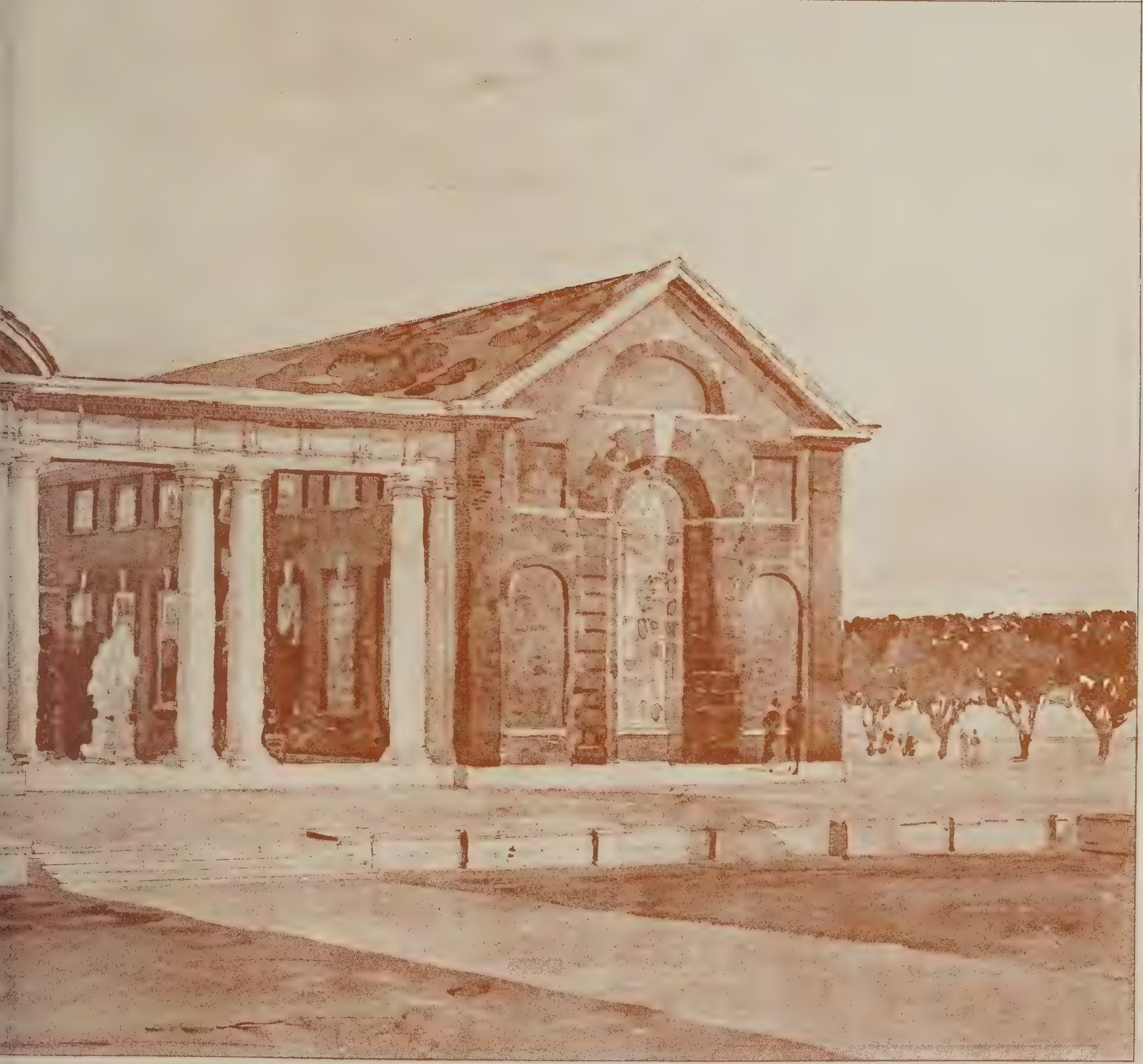


COURT OF THE ROYAL
BRITISH PAVILION
ST LOUIS EXHIBITION
ERNEST GEORGE & YEATES
ARCHITECTS.



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The Architect.

THE WEEK.

The third reading of the Bill permitting the use of the metric system was gone through successfully on Tuesday in the House of Lords, and we suppose the Act will soon be in operation. It is remarkable that at such a time a French professor, M. Gadot, should affirm that the metre as it is recognised in France is a delusion. He believes there is a relation between measures of length and pressures of the atmosphere, or, in other words, that the latter should be the determining force. It is shown by the rise and fall of mercury in a barometer, as well as by variations of one on the aneroid principle. If tested in that way the French metre is found to be inexact. Professor Gadot's objections to the metre are not new. Originally the metre was derived not from any ratio to pressure. It was based on what was presumed to be less variable, viz. a line drawn from the pole to the equator. The ten-millionth part was taken as the metre, or 39·37079 English inches. Greek prefixes were adopted for multiple parts, as hectometre, kilometre, myriametre, while Latin prefixes indicated divisional parts of the metre, as decimetre, centimetre, millimetre.

The annual reports of the Leicester and Leicestershire Society of Architects are not only produced in better manner than those of most other provincial bodies, but they have been of late embellished by drawings of local work. This year the illustrations are of a house in Friar Lane, Leicester, dating from 1750, and a screen in the church of St. Mary. Both have been measured and drawn in excellent style by Mr. George Nott. One of the subjects referred to is the restoration and reparation of the tower of St. Nicholas Church, by Mr. Charles Baker, a past president of the Society. The Council were unable to approve of the proposal of the architect, vicar and churchwardens, and the following resolutions were passed:—(1) "That the brickwork be not removed from the tower walls on the following grounds: (*a*) That it is not structurally necessary, (*b*) that it will not add to the beauty of the tower, (*c*) that to some extent it would destroy the historic continuity of the tower." (2) "That this Council are strongly of opinion that the proposals of the architect, vicar and churchwardens, with regard to the parapet and pinnacles should be adhered to, and that their further proposals for necessarily strengthening the angles of the tower by the insertion of squarely worked new stones—where absolutely necessary—projecting to the original face be adopted, and that as many of the old stones be retained as possible." The vicar stated that they agreed with Council with reference to Resolution 2, but with regard to 1 they did not take the same view of the matter.

A sketch-book has survived which is a record of the late Franz von Lenbach in his fifteenth year. It was then expected he was to become, like his father, a mason or general builder. But the sketches reveal that he pursued his studies with a divided mind. There are certainly some which can be described as architectural, but juvenile drawings of Christ and the Blessed Virgin are more numerous. In so Catholic a country as Bavaria it was common to find subjects of the latter kind in favour with children in villages. But in Lenbach's case they suggested a predilection towards those votive pictures for which it might be said there existed a market among the peasantry and on which he began to try his hand as an artist. Of a different kind are the types of Mephistopheles which are common exercises in artistic creation. There are various scenes which we presume were drawn from life. Some verses also are found, but whether original or copies it would be difficult to determine. A couple of years ago the sketch-book was shown to the great artist, and he testified they were his genuine scrawls. The book will no doubt be treasured in Germany, for it has biographical interest.

The London Building Act is peculiarly careful in providing against the perpetration of projections. In addition, any one who brings forward a building is liable to a penalty not exceeding 20*l.* a day. Section 73 of the Act deals with cases which might be overlooked elsewhere. All this interferes with architects' designs. Buildings, therefore, are less pleasing in appearance than would otherwise be possible, and owners and occupiers have to suffer. These legislative grievances will seem more oppressive when it is found that ponderous cases for advertising purposes can henceforth be affixed to the fronts of buildings with impunity. That, at least, is the conclusion to be derived not only from a magisterial opinion, but from a judgment delivered by the Lord Chief Justice and two other judges of the King's Bench Division. A year ago arrangements were made for setting up no less than twelve advertisement cases on the front of a house in Cranbourne Street, which were to be illuminated by means of the electric light. They varied in width from two feet to five feet, and in height from five feet to seven feet, and projected ten inches beyond the face of the building. There was no consent obtained from the County Council for their erection. A summons was taken out by the Council against the company, which was heard by Mr. Plowden. He dismissed the summons, being of opinion that the cases were not structures, that they were mere excrescences easily removable, and that they could not be described as a bringing forward of the building. The County Council appealed. Mr. Justice Kennedy agreed with the magistrate that the cases were not structures, and were not comparable to a bow window, which was a part of the building. Mr. Justice Wills adopted an opposite view, for as long as the cases remained annexed to the building he considered they formed part of it. The Lord Chief Justice owned to agreeing with the greater part of what was said by Mr. Justice Wills, although he failed to arrive at the same conclusion. Hall *v.* London County Council, which was heard in 1901, had to be respected, and it could not be said the magistrate was wrong in point of law. The appeal was, therefore, dismissed. An architect or a builder can hardly realise that enclosures of sheet iron which are fastened to wrought-iron supports are not as much projections as a bay window. They are, too, more dangerous, for lights have to be placed within them, and the principal object of the Building Act is to provide security against fire.

The works of George Morland were so long neglected, many people have been surprised at the interest given to them of late. Such a change is always suspicious, for it is supposed to be dictated by selfish interests. Morland's paintings, drawings and engravings were obtainable at low rates; the possessors of them may now think it is time they were turned to profitable account. We prefer to believe that in Morland's case it is justice which prevails. It is now asserted that expedition is advantageous in painting, and more successful results are obtained by "striking while the iron is hot," as the smiths say. According to all accounts, Morland dashed off his drawings with the haste which was necessary to gain the means to enable him to enter triumphantly into a tavern, and with no better spur to his imagination than a bottle of gin which hung from his easel. But in spite of the improvising, his pictures are as effective in exhibitions and auction-rooms as the most laboured performances. Judged by ethical laws he was a failure, and his short life, for he did not reach his fortieth year, might be called one of slavery. If, however, the psychology of artists was thoroughly understood it might be found that if George Morland was regular in his habits, lived in a costly style and could be considered as an example of domestic virtues, he would not have painted so well. "A dog drawn by a master," says Emerson, "or a litter of pigs, satisfies, and is a reality not less than the frescoes of Angelo," and Morland was such a master. As a painter of some varieties of agricultural life he has remained unsurpassed. Credit is therefore to be accorded to the Board of Education for celebrating the centenary of his death by an exhibition at South Kensington of his works. The painter deserved that honour, for it is never likely that people will be at the expense of raising a monument to him. It is easy to hold him up as a warning to other men, but in passing judgment it would be well to remember the quantity of graceful work he produced and his modesty in referring to his works and to his own life.

THE PERCENTAGE QUESTION IN THE AMERICAN SENATE.

A DISCUSSION was recently heard in the American Senate which recalls those relating to the payment of the two Barrys that were at one time not uncommon in the House of Commons. In the case of Sir Charles Barry there was some ground for objection. In 1839 the Government proposed to him that he should receive 25,000*l.* for the superintendence, direction and completion of the Houses of Parliament. Barry said he was induced to concede conditionally to the offer because he knew that any attempt then to prove the inadequacy of the sum would be fruitless. Moreover, he had already entered on his duties and made costly arrangements to carry out the works. To relinquish the employment would consequently involve him in heavy loss. When in 1837 he obtained his appointment as architect no stipulation about remuneration was made on the part of the authorities. He was therefore justified in assuming that he was to receive the customary percentage. The proposition of 1839 was a surprise to him. Some ten years afterwards, when he endeavoured to secure more liberal treatment, it was not to be wondered at if the authorities should object to the payment of an additional sum of over 20,000*l.* Public departments find it difficult to make ends meet in the expenditure for a current year, and are not ambitious to become responsible for legacies of debt bequeathed from an earlier time. Moreover, the commission of 5 per cent. which Charles Barry claimed was not in accordance with all official precedents. Sir John Soane and Sir Robert Smirke were paid only 3 per cent., and John Nash accepted that rate during a long part of his career. It was also the percentage paid to Decimus Burton. Eventually the Treasury proposed to pay 4,925*l.* for services in connection with the warming, lighting and ventilation arrangements, and 2,150*l.* for services in measuring. Barry offered to leave the question of remuneration to arbitration, but the Treasury declined to approve of that mode of investigation.

In the American Senate the subject under discussion was the obtaining of plans for public buildings by competition and the amount to be paid for them. The clause on which the discussion arose ran as follows :—"If they shall invite plans by competition among architects, the successful architect shall receive compensation in full at a rate not exceeding 2½ per cent. of the total cost of said building, and shall also pay to the persons submitting the two sets of plans next in order of merit to those selected such sums as in their judgment shall be proper compensation for their preparation." We have from time to time described the procedure adopted in the United States with regard to the plans of public buildings. An architect's department has existed for many years, but at one time it was liable to abrupt transformations. The principal architect was rarely able to hold his office except for a short term. Whenever one party gains the upper hand it means a wholesale change of appointments, and the State architect must suffer like other officers. When a public building was to be erected the local legislators were allowed to exercise influence in the selection of an architect, and in many cases the commissions were entrusted to men who were incompetent. Occasionally an effort was made to have the designs prepared by the official architect and his assistants, or by some architects who were connected with the department controlling the business to be transacted in the proposed building. It was found, however, that the arrangements produced unsatisfactory results. What is known as the Tarsney Act was then enacted. It allows the supervising architect to arrange competitions for Government buildings. The successful architect is to be paid 5 per cent. upon the cost of the work executed from his drawings and specifications, including the supervision of construction. Should it be necessary to call in specialists for heating, mechanical appliances and electric equipment the expense is to be borne by the architect and is understood to be included in the 5 per cent.

The discussion over the proposed 2½ per cent. clause was made an occasion to recall a great many allegations about the exorbitant sums which architects were able to derive under the percentage system. One Senator stated that for an enlargement of a lunatic asylum the architect obtained 400,000 dollars out of the funds. In another case for which 10,000 dollars would be sufficient the architects received 44,036 dollars, or 10 per cent. of the entire appropriation. It was therefore to be apprehended, he said, that when Washington was improved according to the recommendations of a Commission, with a fashionable architect from New York at its head, and at an outlay of 200,000,000 dollars, the percentage that would be derived from it would of course be enormous. An executive office in the city, which was estimated to cost 5,000,000 dollars, was expected to run up to at least 12,000,000 dollars.

It is evident that one of the grounds for the opposition to the competition system was that local men, although they might be supported by Senators, were not always successful in carrying off prizes. What was called "a little building" was to be erected in New Hampshire at a cost of 90,000 dols., but on the Senator for that State inquiring as to when the works were to be commenced he was informed that the plans were being prepared in Boston, and until they were received the works could not be started. The Senator considered, in the first place, that the people of New Hampshire had reason to complain at paying a supervising architect who does not design or supervise works, and who passes the job over to an architect in Boston, a city which prides itself on its superiority, and is consequently out of favour with other parts of the States. Another building put forward as exemplifying the defects of the system was the White House, in Washington, which was entrusted to Messrs. McKim, Mead & White, of New York. It was stated that "if the committee had not jealously guarded that building and kept it intact, preserving its fine beautiful features, it would have been stripped, dismantled, ransacked, changed, perverted and practically destroyed." One of the Senators declared it to be unfair to Mr. McKim to suggest that he wished to transform a building with so many historic associations for an American, and if additions are made of brick painted white the reason was the insufficiency of the sum appropriated to the works.

It is strange that in America, where so many men are honoured for becoming millionaires, the Senate that ought to represent worthily what is best in public opinion should be alarmed because occasionally an architect may obtain the chance of securing a profitable commission. A Senator who has had experience of building on a large scale said he came to the conclusion that there is no body of men in the United States more maligned than the architects. He was unaware of a single instance where an architect made a large fortune, and he knew cases in which almost all the fees received were paid out in the elaboration of the plans. It was shown that the great mercantile corporations in the States were acting in a different spirit to that of the legislators, for they went to the ablest architects they could discover and left themselves unreservedly in their hands. A railway station which will cost 3,000,000 dollars is to be designed by Mr. Burnham, of Chicago, who will receive the usual percentage on the outlay. American architects are expected to keep expensive offices, and the supervising architect has declared his belief that when business is good not more than 2 per cent. out of the 5 represents the architect's profit. There are also fluctuations, as in all other kinds of business, and good years have to some extent to make up for the losses of bad years.

The changes which have been made in procedure must no doubt be responsible to a large extent for the peculiar way in which the Senators look down on architects. There seems to be little uniformity in practice. American architects will sometimes be content to receive payment for the preparation of plans alone at a 2½ per cent. rate. In those cases, military engineers or employés of various kinds will be entrusted with the superintendence of the works. Then again, architects will endeavour to look after the proper realisation of their plans when they are paid at the 5 per cent. rate. A Senator or congress man who cannot investigate all the abuses of which he receives information is likely to confound one case with another, and to conclude that architects are paid for superintending works which they seldom or never visit. Indeed, one case was mentioned in which the officer in charge would not allow the architect to enter the building, although it seems he was paid as if he had controlled the operations. It is also imagined that much work is done by the officials of the Architectural

Department of the Government, and it may not be easy to discriminate between their interference and the inspections by the architect who designed the building, or by members of his staff. But whatever the cause which originated the attacks on architects in the Senate, the majority of the citizens are likely to consider that worse remains behind, and that much more could be said about the excessive charges made by architects whenever an opportunity is presented.

Another conclusion is also likely to be drawn, which is, that there is no uniformity in the rate of remuneration. It was stated that much less than 5 per cent. would be accepted by architects if buildings were entrusted to them. It is of course an advertisement for a young architect to design a Government building, and he may therefore be willing to make sacrifices for the privilege, just as French painters will sell pictures at nominal prices to the Government or a municipality. In neither case can the official arrangement be approved. Public money is never more wisely expended than in the promotion of the arts, and the American Government should recognise that in endeavouring to obtain the services of architects without paying the full market price they are setting an example which must have a baneful influence on business of all kinds, and one which certainly does not conduce to the advantage of the United States.

ANTWERP.*

FOUR years ago we noticed an historical sketch of Bruges by Mr. Robinson, which showed his competence to deal with the history of Belgian towns. We have now before us a companion volume relating to Antwerp. The Belgians were always an industrious race, and at one time Bruges, as well as Antwerp, held an important position in the world of commerce. At the present day, however, a remarkable difference exists between the two cities. Bruges, although it possesses an immense railway station and is making efforts to retrieve trade, seems to be a city from which the tide of affairs has long since withdrawn, and therefore would require some extraordinary effort of society to be brought back again. In Antwerp, on the contrary, we are more impressed by the spirit of commerce than in places of much larger size. It has not the trade of Liverpool, London or Glasgow. But from the fact that there is a concentration of vessels on one side of the Scheldt, the spectator, who judges from what he sees rather than by statistical tables, must conclude that Antwerp is the great port of Western Europe. Indeed, the history of the city turns to a considerable extent on the advantages of its position. The first settlers were endowed with at least equal foresight to that of the founders of London. In both cases the risks to which a collection of habitations on the coast would be exposed in an age of piracy were avoided, and safety against tempests was gained without attempting the difficult feat of constructing a harbour. Although much has changed in the world, the possession of Antwerp is as much coveted by outside Powers in the twentieth century as it was in the sixteenth.

The architectural visitor must, however, be amazed when he explores the city to discover how little there is which appears to be of ancient date. The cathedral is mainly of the fifteenth century; and indeed the tower, the feature commanding most attention, was not completed till 1518. The Gothic church of St. Jacques, which is so closely associated with Rubens, principally dates from 1560. The Dominican Church was erected in 1571. In secular buildings we find few signs of antiquity. The old Bourse, which was renowned throughout the world for its splendour, was not commenced until 1531. It superseded a structure which was constructed fifteen years earlier. The Steen, or prison, which is one of the sights most sought after by strangers, and concerning which so many legends are recorded, does not go back earlier than 1520. The town hall was commenced in 1561, but a few years after its completion it was destroyed. The Jesuit Church, at one time claimed to be the most splendid in Belgium, was consecrated in 1621.

It must not be supposed that Antwerp was deficient in important buildings at an earlier time, but the history of the city shows how often they had to suffer. In wars and riots the buildings were injured or destroyed. Moreover, the citizens were wealthy, and if a new fashion in architecture was deemed worthy of adoption they were able to pay for the necessary transformation. The sixteenth century, to which so much of the architecture belongs, was a period which witnessed stirring events for Antwerp. In 1526 the number of taxable houses in the city was 8,785; in 1435 the total was only 3,440. One cause was certainly the migration of merchants from the declining Bruges at the end of the fifteenth century. Another was the reopening of commerce with England. Henry VII. was crafty, and he obtained a treaty which the Flemings called the "*malus intercursus*," and two stained-glass windows were placed in a church by the English monarch and Philip the Handsome as a commemoration of it. In 1515 the young Prince Charles V. entered Antwerp, and under him the city advanced rapidly. According to Mr. Robinson, "The reign of Charles V. was to be the epoch of Antwerp's first greatness. As Guicciardini tells us, 'Antwerp was then truly a leading city in almost all things, but in commerce it headed all the cities of the world.' The decline of Bruges and the deepening of the west entrance to the Scheldt were no doubt the proximate causes of Antwerp's rise, but the timely discoveries of Columbus and of Vasco da Gama came in to strengthen it." In the course of a few years it was claimed that more commercial transactions were completed in a fortnight at Antwerp than in Venice during twelve months. The city became the residence of bankers; among the borrowers were Henry VIII., Edward VI., Mary Tudor, and Elizabeth. Where there existed so much wealth it was necessary to provide for safety. Fortifications on a plan prepared by Antonio San Gallo, of which Charles V. had approved, were delayed, and in consequence Antwerp was at one moment in danger of being seized by a freebooter. As the result of the panic no expense was spared to perfect the new fortifications, which cost the city more than a million crowns. "Nivelles stone was used, so hard that cast-iron cannon-balls shattered themselves to pieces against it, while wrought-iron balls rebounded from it. This was a passing triumph for defence against offence in their still unended contest. Within, the ramparts were lined with brick, and both within and without the lines broad zones of land were marked off, on which no buildings might be erected. The works were entirely finished in 1556, thanks to the energy of Antwerp's Haussmann of the sixteenth century, the architect, builder and contractor, Gilbert van Schoonbeke."

Philip II., when he succeeded to the immense power which his father had abdicated, was the cause of much trouble for the citizens of Antwerp as well as for most Flemings. Political and religious differences ended in contests. Churches and other buildings were destroyed. One of the results was the appointment of Alva as regent. He was among those men who believe that the only way to deal with rebellious citizens is to treat them with the utmost cruelty. England was, however, a gainer by his oppression, and Mr. Robinson tells us that in the state of uncertainty which followed "many merchants abandoned the city and took their wealth into England or to Germany. Several set up counting-houses in London, and the names of well-known Antwerp merchants are found among those of the founders of the Dutch Reformed Church of Austinfriars in London. Fugitives of the working classes were also numerous; many settled in Maidstone, Sandwich and Norwich, and introduced industries that flourished and enriched our country to the detriment of their own. They escaped the fate of those who fell into the power of the Council of Troubles—the Council of Blood, as the people named it—instituted by Alva." English vessels were also able to intercept goods sent to and from Antwerp. Alva's measures failed to overcome the people, nor was his successor more successful. After the death of the latter there were divided councils, which led to the mutiny of the Spanish troops, the "fury," and the siege of Antwerp by Alexander Farnese. Queen Elizabeth sent troops to help the citizens, but through mismanagement a capitulation was entered into before the English "stout and sturdy rogues, vagabonds and masterless men," could display their courage. The house belonging to the English merchants, considered by DÜRER to be the finest he had seen, was abandoned, the Scheldt was closed. The condition of the city in 1616 was described by an English visitor, DUDLEY CARTER, as follows:—

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* *Antwerp:* An Historical Sketch. By Wilfrid C. Robinson. (London: R. & T. Washbourne.)

> Antwerp, I own, surpasses all the towns I have seen in the magnificence of its buildings, the breadth of its streets, the strength and beauty of its fortifications. We only spent a single night there, and gave a morning and an afternoon to visiting the town in our friends' carriages, so as not to tire our horses. We saw all. Two sentences would suffice to describe the state of the place, and you must accept them as literally true: *Magna civitas, magna solitudo*; for all the while I was there I never could count in the whole length of any street more than forty persons at once. I saw neither carriages nor horsemen, and though it was a week-day, not one of us saw a pennyworth of goods bought or sold in the shops. Two porters and a ballad-monger could have carried off between them all that was brought together in the Exchange, upstairs or down. The English factory was filled with scholars disciplined by the Jesuits; the House of the Osterlings (Hanseatic merchants) stood empty. Grass grew in many of the streets. Curiously enough, in spite of its lonely state the public buildings of the city were well kept.

It is remarkable that at about the date when CARTER wrote, RUBENS was then beginning to add a new glory to the history of Antwerp. He was born in Nassau, it is believed, in 1577, but as his father had been a jurist in Antwerp the child was brought there about the age of ten and entered one of the Jesuit schools. He studied painting under three masters, and then travelled to Mantua, Rome and Madrid. He had arranged to return to Mantua, but in 1609 he was appointed Court painter in Brussels. Through his first marriage he went back to Antwerp, and in 1610-11 he is believed to have painted the two great works now to be seen in the Cathedral. As he was also an ambassador for pastime, he was able to add to the renown of Antwerp as a diplomatist. Long before he lived there were other masters in the city, and he collected around him assistants who also gained reputation elsewhere. Mr. ROBINSON believes that "they went out to find better markets than Antwerp in its decline could offer them. There was still much wealth left in the city in RUBENS's lifetime, and merchants could turn their houses into art galleries. But within a quarter of a century after his death art had to ask Government to help it, and in answer to the request the famous Academy of Antwerp was opened in 1664. JORDAENS, BREUGHEL, TENIERS and ZUELLIN figure among its first professors. The Academy has gone on to our own times, and has been a fruitful nursery of artists not unworthy of the city of METSYS and of RUBENS."

Antwerp has passed through trials which were enough to break the spirits of human kind, but which have had a salutary effect. Its inhabitants now appear to be of a different race to those in Brussels; indeed, we may suppose that they were always tough, and although they might bend under tyranny they could not be broken. The extraordinary growth of the prosperity of the city has sometimes amazed political economists, while at the same time the study of art is pursued with enthusiasm. The history of so interesting and important a city is worth attention, and it has been narrated in a trustworthy manner without party bias by Mr. ROBINSON, who possesses advantages generally denied to Belgian authors.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last, Mr. Aston Webb, R.A., president, in the chair.

Recent Deaths.

Mr. ALEXANDER GRAHAM, hon. secretary, announced the decease of three members—Mr. N. M. Brown, of Newport, elected Associate in 1887; Mr. F. W. Tasker, elected Associate in 1874 and Fellow in 1903 Mr. Tasker, he said, was well known to most of the members and was recognised as a reliable and very good architect. Although he was only elected a Fellow last year, they had more reason to regret the loss of a man whose ability as an architect entitled him to distinction in the profession. Lastly, there was the decease of the late Mr. G. H. Birch, who retired as an Associate a short time ago. Mr Birch held the office of Curator of the Soane Museum and was throughout his whole life a diligent student of architecture.

The PRESIDENT said two of the names mentioned were those of very dear friends of his, and also of many of those present. Mr. Tasker died suddenly on Saturday last. He was a Catholic architect and a member of the Association. He was an outspoken man, but his candid criticisms were free from ill-feeling. He was fortunate in being the nephew of Miss Tasker, a most benevolent lady of the Catholic Church, for this connection brought him many important commissions. One of the earliest works he had to carry out was the College of St. Charles at Notting Hill. The late Mr. Birch, the speaker said, was also a great friend of his and of all members of the Association. He was a man who gave up a great part of his life to archæological pursuits in connection with architecture. He would perhaps be best known by his work of Old London produced at Earl's Court, and although such work was easy enough nowadays, yet Mr. Birch could claim to be the first who originated it. As a literary man he would be remembered by his book, "Wren's City of London Churches." For the last ten years he had satisfactorily filled the office of curator of the Soane Museum.

Board of Professional Defence.

The PRESIDENT announced that the Council, after very long consideration and after the matter had been thoroughly reported upon by a committee, had decided to institute a Board of Professional Defence. The objects of the Board were to assist any member of the Institute who had legal difficulties of such a nature as might be of interest to the profession. The Board would seek legal opinion in the matter, and decide upon the course to be adopted. Such a Board had long been established in France with satisfactory results. Further particulars, he said, would be published at a later date.

The Rev. J. B. LOCK, M.A., Fellow and Bursar of Gonville and Caius College, Cambridge, read a paper on

The Planning of Collegiate Buildings.

Reference was made to the colleges which have come down to us from the fourteenth and fifteenth centuries, which were all built on much the same plan, the various parts being grouped round an enclosed court. The buildings were never more than two floors in height. To the lowness and narrowness characteristic of them the author attributed the beauty and feeling of rest that seems to pervade the old courts. The free admission of sunlight and air into the courts is also secured by keeping down the height of the buildings. When Dr. Caius enlarged Gonville Hall by building what is now called Caius Court, he bounded his court on the south side by a wall broken only by the insertion therein of his beautiful Gate of Honour, and in his statutes he expressly forbade the erection of any building which should completely enclose this court on the south side, "lest the air from being confined within a narrow space should become foul"

The old arrangement by which the buildings were in general only one room deep caused the kitchens, &c., to be placed at one end of the hall, which had the advantage of keeping the odours of the cooking to some extent out of the hall. At the kitchen end of the hall it was customary to have a passage going right through the building and cut off from the hall by a screen with a gallery above. In modern times the passage has in many cases become a thoroughfare leading from the old court to newer courts beyond, with the consequent disadvantage that all the kitchen service now passes across the busy thoroughfare. The position of the hall recently built at Girton College is obviously convenient. It is placed at some distance from the students' rooms, and is approached by the students from two directions through an enclosed passage or cloister opening into the hall on its south side, while the kitchens are placed in a separate building on the north side of the hall.

In the olden time the master simply had his one or two rooms in which he lived—a bachelor. In modern times the master requires a good house, with all the offices and belongings of a modern residence. So that the lodges of our day are either curious and interesting conglomerations of buildings gradually annexed or added by successive masters, or are brand-new modern mansions built on detached sites.

Coming to the fellows and students' rooms, the plan of the sets of chambers or men's rooms in the ancient building was a very simple matter. The building was merely sliced up by the insertion of stacks of chimneys and wooden partitions, with staircases of one flight at the proper intervals. In colleges at the present day ranges of buildings containing living-rooms have to be divided up into sets, each set containing at least one sitting-room, a bedroom and a pantry or gyp's room.

The following points should be borne in mind with respect to a set of rooms. Usually each set should be enclosed by a stout door called the oak or sport-door. The sitting-room should have some sunlight. The bedroom should not have less than 100 square feet of floor spacing, plenty of window space that can be opened, a place for the bed out of the draught and a chimney and other means of ventilation. There should be provision for the passage of a current of fresh air through the rooms when the sport-door is closed; for this purpose the windows of the sitting-room and bedroom should not all face the same way. The author went on to consider how these points could best be obtained.

Economy of space in nearly all cases demands buildings of three floors and an attic, and the colleges nearly always ask that at least eight sets of rooms shall be provided on each staircase. The arrangement of four sets of rooms on each floor approached by one staircase would have many obvious advantages if a plan could be devised free from objections, but this is not easy. In the only instance the author knew of in which it had been adopted at Oxford or Cambridge the plan had so many hygienic defects that it could not be said to be successful. There was no possibility of a through ventilation of any one of the four sets of rooms, except through one of the others; the passages were without direct light or ventilation; the scout's hole was outside all the sets of rooms; the lobby was badly lighted and badly ventilated, and was larger than was necessary.

As to what is the best typical arrangement of sets of college rooms, the author had made a careful comparison of plans adopted in recent times at both Oxford and Cambridge, and had come to the conclusion that the plan recently adopted, quite independently, by Mr. Champneys at New College, Oxford, and by Messrs. Aston Webb & Ingress Bell at Gonville and Caius College, Cambridge, was one of the best.

Showing plans of St Michael's Court, Caius College, the author described the arrangement. The building faces south-west towards a narrow court. The staircase is on the north-east and is approached from the court through a passage about 4 feet wide. On the ground floor on each side of this passage is a set of rooms, of which the keeping rooms face south-west, the bedrooms north-east; the gyp-rooms also face north-east (a good aspect for a pantry). When the sport-doors are shut the opening of a window in sitting-room and bedroom, one on each side of the building, gives excellent ventilation. The staircase is thoroughly well ventilated; with a window open on the staircase air can blow right through the building from the entrance passage to this window. On the first floor, as the space over the entrance passage is available, the whole frontage to the south is at disposal for division between the two sitting-rooms. In the plan adopted at Caius College the space over this passage is all thrown into one room, making the rooms on each side of unequal size; at New College, Oxford, this space is divided equally between the two sitting-rooms.

Comparing plans of modern buildings, the author pointed out one or two objections to the arrangement adopted in the new buildings of Tree Court at Caius College. One is that the gyp-room opens directly on to the staircase landing, and is not included within the sport-door. A more important objection is that the staircase has no independent through ventilation.

The rule that a court set aside for sets of rooms only should have no buildings on its south side has been very generally observed in recent additions to colleges at Oxford and Cambridge, so that these additions have usually taken the form of a straight line, or of an L, or of a U.

It has been the custom at Oxford and Cambridge in planning out the allotted space into sets of rooms to practically choose a certain arrangement and then repeat that arrangement on each staircase. In the recent work at Caius College, however, the irregularity of the site was such that uniformity of plan could only be attained by sacrifice of space, and the authorities had to determine how far irregularity of plan was objectionable. In the end they decided that it was desirable rather than otherwise, and the architects were instructed to give as much variety in size and shape (within certain limits) of the rooms as they conveniently could. The result in the new court at Caius is that there are hardly two sets of rooms out of fifty which are exactly alike.

The irregular site of St Michael's Court is practically an L with an angle at the corner of about 120 degrees, and the plan adopted by the architects seems a solution of the difficulty of how to deal with an L or U-shaped corner, provided it is not a condition that all rooms shall be rectangular. To illustrate the advantages of the arrangement the author showed this plan adapted to the first floor of the building in the corner of the Tree Court, Caius College, so that it could be compared with the existing arrangement. The new plan gives two sets of rooms, with sitting-rooms, each facing south-west, of very irregular but not uncomfortable shapes. The existing plan provides two sets of rooms, which in size and shape are excellent; but one set has all its windows looking north, and as the building looks on to a narrow lane with high buildings on the opposite side, the rooms, notwithstanding their good size and shape, were not popular. The corresponding rooms on the ground floor were practically unsuitable for habitation, and were used as offices

Three main points were emphasised in the planning of college buildings, viz. (1) The desirability of having some sunlight in the sitting-room in all cases; (2) the importance of it being possible to set up a through current of air through every set of rooms independently of the staircase; (3) the desirability of having a through current of air through the staircase itself. The plan recommended provided all these advantages in rooms facing south or east or west. The point raised as to the desirability of having windows in living-rooms on more than one side applied with equal or greater force to all rooms intended to be used as chapels, halls, lecture-rooms, laboratories or classrooms.

In concluding, the author begged architects not to grudge a large share of attention to the use to which a building was to be put. He fancied he remembered reading a report of a speech by the President in which he advised architects not to put all they knew into a façade. He (the author) asked them to give a large share of their genius and experience to the planning of the building.

Mr. B. Champneys said the paper was extremely interesting, although it dealt more with the practical than the absolutely historical side of college buildings. The whole system of college rooms had been transformed from what it was in the fifteenth and sixteenth centuries. The old plan was no longer possible when each student required a separate room for study. It was stated in the paper that modern economics required a third floor often to be added to the building, but the speaker hoped such buildings would not go beyond two floors and an attic. The question of baths had not been touched upon by the author of the paper, and in modern days they were a most desirable adjunct to a college building.

A vote of thanks to the author of the paper, proposed by Mr. A. W. S. Cross and seconded by Mr. H. G. Ibberson, was unanimously passed.

THE ARCHITECTURAL ASSOCIATION.

A MEMBERS' dinner of the Architectural Association was held on Friday last in the Criterion Restaurant, Mr. H. T. Hare, president, in the chair. There was a large company present, including Professor Beresford Pite, Messrs. H. W. Pratt, H. Stannus, Maurice B. Adams, Leonard Stokes, W. H. Seth-Smith, T. H. Watson, T. Costigan, W. J. Locke, E. Guy Dawber, Cole Adams, W. A. Pite, J. S. Gibson, R. S. Balfour, F. Hooper, Banister F. Fletcher, Max Clarke, C. H. Brodie, L. Ambler, H. P. G Maule and Professor Hulme.

The President, in proposing the "King, Queen and Royal Family," said the toast would be more than loyally honoured by the Association because, with the change into the new premises, they were indirectly under Royal patronage.

"The Royal Institute of British Architects" was the second toast proposed by the President. A great number of those present were members of the Institute, and he felt confident in saying that all the company were desirous of becoming members of that body. The toast therefore would be drunk with the greatest enthusiasm.

Mr. W. J. Locke briefly responded, and said he was very glad the President had remarked in proposing the toasts that the speeches were to be short, for under that rule he was saved from saying anything about the Royal Institute of British Architects, because to respond properly would take up much time. He had had the pleasure of visiting the new premises of the Association, and when he had gazed around the building at the comfortable arrangements, replete with every modern convenience, and remembered how cramped they were for space at the Institute, he was filled with envy. It was an envy that stimulated, and he hoped the Institute would in time possess such a palace as would vie with theirs.

Mr. J. S. Gibson, who proposed "The Architectural Association," said that as one of the older members of the profession, though not of the Association, he might be one of those who at any rate should be old enough, if not wise enough, to look upon the Association appreciatively. A frank and hearty manner was extended to all architectural students who came to London either to perfect their education or to learn something which they lacked. There was one reason why the Association was endeared to him, and that was the welcome it gave to men of all nationalities, and he would say that so far as it could all men were treated impartially. One could usually tell the work of the sprinkling of men who came from over the Border. These were unfortunate, as they came to a land where brick was of paramount importance, and where building by-laws seemed to be enacted for the express purpose of stifling any capacity for architecture with which a Scotchman was imbued. The Association, however, made no distinctions, and men could come from whatever end of the world they would, and find all the facilities, attractions and friendships in its membership which would be invaluable to them through life. Sympathies were broadened in professional work, giving a higher relationship to others and the world generally.

The President, in response, said they had several very good friends to thank for having helped them in the acquisition of their new premises. They ought not to forget the work done by Mr. Seth-Smith, since it was largely due to his energy and initiative that they were in a position to avail themselves of the opportunity when the offer of the Royal Architectural Museum was made. If they had not had the funds the committee would almost have been inclined to decline the offer. They had also to thank Mr. M. B. Adams for the part he took in bringing the matter to a head, and Mr. Leonard Stokes for the way in which he rendered the premises suitable to their needs. Although they had entered the new premises and felt happy, there was another side of the question: there was still a burden of debt. Every member had a part to fulfil in the undertaking; he shared the responsibility of the debt, and if this was only recognised, and every member gave according to his means, there would be no debt at all within a month. He could say the Association was stronger than ever. The attendance at dinner was a record as far as numbers went. The scope of the Association was enlarging, and embraced more and more the members of the architectural profession. Prominent architects took an active part in the management of its affairs, and there was every promise that their work would develop into something greater than it ever had been. The day school was an unqualified success, and the work done gave proof of good results in the future of architecture, and he looked forward to the time when their school would be one of the most important in the kingdom.

Mr. A. T. Bolton proposed the toast of the visitors.

Mr. T. Sudsuki responded, and said he was grateful for all the kindness and attention members of the Association had shown to him. In the course of a few years, especially after Japan had altogether beaten the Russians, he believed many of his fellow countrymen would come to England to be educated in architecture, as their navy had been taught its work.

Professor Hulme also replied.

The toast of "The Press," proposed by Mr. H. P. G. Maule, with responses by Mr. W. T. Plume and Mr. Raffles Davison closed the list.

An excellent programme of music was rendered between the speeches and added to the enjoyment of a most successful evening.

DEVON AND EXETER ARCHITECTURAL SOCIETY.

THE annual meeting of the members of the above Society was held at the Globe Hotel, Newton Abbot, on Saturday, the 7th inst. The following were present:—Mr. A. S. Parker (Plymouth), president; Messrs. Harbottle Reed, hon. secretary; J. Crocker, J. Jerman, O. Ralling, C. Cole, L. F. Tonar, J. A. Lucas, J. M. Pinn, A. J. Pinn, P. Morris, F. A. M. Rawes (Exeter), C. King, B. P. Shires, H. Watt, W. H. May, G. P. D. Saul (Plymouth), N. G. Bridgman (Paignton), W. W. Hitchens, S. R. Griffin (Plymouth), and S. Dobell (Exeter).

The seventeenth annual report recorded increased membership and sustained interest in the affairs of the Society. The Council regretted the decease of Mr. Silvanus Trevail (member) and Mr. Reginald Ponsford (associate member). Since the last annual meeting fourteen meetings—seven being Council and seven general—had been held. Matters of considerable importance have been under discussion, chiefly relating to the improvement of the ordinary local facilities for architectural education. After dealing with the work of the past year, the report stated that the Council regret that while only one measured drawing was submitted for the book prize, it was not deemed of sufficient merit. No sketches had been submitted for the hon. secretary's prize. According to rule, Messrs. N. G. Bridgman, L. F. Tonar and M. A. Bazeley retire from the Council, the two first-named being eligible for re-election.

The President moved the adoption of the report. Mr. Crocker seconded, and, subject to a slight amendment, Mr. J. Jerman supported. The report was adopted.

The balance sheet was presented by the hon. treasurer (Mr. O. Ralling), and was adopted on the motion of Mr. Dobell, seconded by Mr. Lucas.

The President, in his address, said he hoped the Devon and Exeter Architectural Society would use their best endeavours in the future to prevent the demolition of ancient buildings of interest. There was certainly scope for a useful work in assisting to educate a large section of the public to set a proper value on all the remaining landmarks of historic interest, which, once destroyed, could obviously never be replaced. Exeter would have vastly gained had not vandalism in the past been allowed to remove large numbers of ancient buildings, which would have greatly added to the interest of the city, and have been of commercial advantage in the attraction of a larger influx of tourists and visitors. He remembered two especially fine ancient houses in North Street having been removed at a comparatively recent date for the widening of the street, which could have been attained by allowing the pavement to run under the upper storeys, on the principle of the Butterwalk at Dartmouth; but no thought or ingenuity appeared to have been exercised. He was pleased to note that the Exeter Chamber of Commerce had decided to fix tablets on places of historic interest in the city. As to the future of architecture in this country, he believed there was hope for a fuller and richer development than ever before, owing partly to the continued expansion of wealth and more particularly to the revised system of art education.

Mr. Charles Cole was then elected president for the ensuing year; Mr. B. P. Shires, vice-president; Messrs. Bridgman, Tonar and Morris, members of the Council. Mr. Harbottle Reed, hon. secretary, and Mr. O. Ralling, hon. treasurer, were re-elected. The two latter officers and retiring president were accorded thanks for their services, as also the hon. auditor, Mr. S. Dobell.

After luncheon the fine old Jacobean mansion of Ford was inspected. One of the stately homes of Devon, its quaint gables and E-shaped plan are visible through the splendid old west iron entrance gate on the Torquay road. Internally there is much of architectural interest in the oak wainscotting, elaborate staircase and ornamental curved plaster ceilings, several with pendentives. Added to these attractions are the remembrances of Royal visits. The present house is said to have been built in 1610 by Sir Richard Reynell, who entertained Charles I. on his way to Plymouth in 1625 to inspect the fleet fitting out for the Cadiz expedition. The king paid a second visit to Ford, and on that occasion attended service at Wolborough Church, where may be seen the monument of Sir Richard, who died in 1633. On it reposes figures of the knight and his wife Lucy, and also their daughter Jane, wife of Sir William Waller, the Parliamentarian General, who thus became owner of and resided at Ford. In the "Orange Room" is commemorated the fact that the Dutch Stadtholder, afterwards our William III., slept there in November 1688.

From Ford the members visited Old Bradley manor-house, where they were hospitably entertained by Mr and Mrs. Webster. This is an earlier type of residence, being of fifteenth-century date; the traced windows, oriels and many gables are most picturesque. For the chapel, now used as an ordinary room, Bishop Lacy granted a license in 1428 to Richard Yarde. The arms of the Yardes are over a chimney-piece in a bedroom. Traces are to be seen of the earlier manor-house.

TESSERÆ.

Church Spires.

THERE are various circumstances which, though they do not affect the spire itself, produce greater or less difference in regard to the character of the structure of which it is a component feature. Very much, for instance, depends upon its situation in the general plan. At Salisbury, Norwich and Chichester the spire is raised upon a tower at the intersection of the cross or in the centre of the plan; whereas in most continental cathedrals and large churches there are two spires on the towers of the west front, though in some instances (Strasburg, Antwerp) only one has been erected. Several, however, have a single tower and spire in the centre of the west front (Ulm, Freyburg, Thann in Alsace), in which case the tower itself begins to diminish almost from the ground, and the whole becomes of the tabernacle character. In most of our English churches (not cathedrals) the spire is placed upon a tower at the west end, as at Grantham, Louth, Bloxham, &c. If we except Peterborough, where they are very diminutive, the only English cathedral which has two western spires is Lichfield which is further remarkable as having a central tower and spire also. Besides the richness and variety thus produced, the larger central spire serves to balance the whole composition, whereas else the body of the structure is apt to look low in comparison with the west end. At St. Stephen's, Vienna, the tower and spire are singularly placed on the south side of the edifice, it having been intended to balance them by a corresponding tower on the north side. At Gelnhausen on the contrary there is a group of spires at the east end. Though so much depends upon circumstances, almost the only thing that is specified in the usual description of spires is the entire altitude from the ground, which single measurement, unaccompanied by others, gives no idea of the relative dimensions of the spire or how it is proportioned. Some of the loftiest spires, as they are popularly termed, are by no means lofty, being not above a third of the entire height and not more than four of their own diameters. The spire of Strasburg, for instance, is only 110 feet out of 474, or less than one-third of the tower itself. At Antwerp again the spire is a mere peak crowning the uppermost stage of the tower, while the tower itself is twice as high as the roof of the church. If we compare Salisbury with Norwich the spire of the latter cathedral will be found, though of less dimensions, much loftier in relation to the rest than the other, being in the ratio of 163 to 308, while Salisbury is only 197 to 304.

Ancient Medallions.

Medallions were larger than medals, but were not intended for circulation, although medals were sometimes used as coins. They were presents of the emperor to his friends, and by the mintmasters to the emperor, as specimens of fine workmanship. They were struck upon the commencement of the reign of a new emperor and other solemn occasions, and frequently, the Greek in particular, as monuments of gratitude or flattery. Sometimes they were merely trial or pattern-pieces, and these abound after the reign of Maximian, with "tres Monetæ" on the reverse. The brass medallions, as they are the largest, so they are commonly of exquisite workmanship and singular device. Many of them are composed of two sorts of metal, the centre being copper, with a ring of brass around it, or the contrary. The inscription is sometimes upon both metals, and at others upon one. Medallions of this kind are inimitable and of undoubted antiquity. From Julius to Hadrian they are uncommon and of vast price; from Hadrian to the close of the Western Empire they are, generally speaking, less rare. The types of the Roman medallions are often repeated upon common coin, and the Roman are often three or four lines thick, while the Greek are only one. Of the latter, perhaps, the only instances not of the Imperial period are some of Rhodes and two of Syracuse. The first of these last is of silver, with the head of Ceres on one side; and upon the other a female figure, perhaps generally representing Sicily or Syracuse, in a car, a victory crowning her, and spoils in the exergue, alluding to the expulsion of Icetas from Syracuse by Timoleon. Upon the second medallion is on one side a female head helmeted, on which is a caduceus and roma; the opposite has a man's head wreathed with laurel, and M. M., which Dr. Combe thought was in honour of M. Claudius Marcellus (whose portrait is supposed to be here given), for he took Syracuse anno 210 B.C. The impressions of the other Greek, *i.e.* of the Imperial eras, are, unlike the Roman, of uncommon and peculiar character. Many Roman medallions have S. C as being struck by order of the Senate; others not, as being by order of the emperor. Pinkerton knew of none of the Republican era, or of Julius Cæsar during life. Before Hadrian the Greek medallions of the emperors are scarcer than the Roman, afterwards more common than the latter. All medallions, one or two instances excepted, are however exceedingly rare. Some French authorities believe that medallions, with very few exceptions, were current, like our double sovereigns, which opinion they found upon a passage in Lampridius so understood by Dupuis. The others they make dona militaria, the ring annexed proving that they were not intended for currency. They make them ornaments to the military ensigns, which then assumed the name of sacred images, to which they addressed the military oaths. Among these they class those of different metals before mentioned.

Bayham Abbey.

About six miles from Tunbridge Wells, on the estate of the Marquis of Camden, are the remains of Bayham Abbey. The abbey was founded at Otteham by Radulf de Dena, and removed to Bayham, or Begeham, by Sir Robert de Turneham It belonged to the canons of the Premonstratensian order, one of those following St. Augustine's rule, founded by St. Norbert, and so called from their mother establishment at Premontier, otherwise termed in England white canons, where, according to Bishop Tanner, they possessed thirty-five houses. The church is of the Early Decorated age, and is noticeable for being cruciform and yet without side aisles, an arrangement which, though it is found in the ruder ecclesiastical structures of Scotland and Ireland (as, for example, in the cathedrals of Iona and Cashel), is almost unique in England. Hence it is, we may safely assert, one of the narrowest churches in the world, in proportion to its length, measuring 257 feet by 23, and 86 feet in the transepts. The nave, too, is extremely long in proportion to what, architecturally, would be considered the choir; and the stalls, as at Westminster and Norwich, have extended a considerable distance down it. The church terminates at the east end with a semi-hexagonal apse, which if filled, as it probably was, with narrow windows, varied with Decorated tracery, and bright with stained glass, must have had a beautiful effect, and resembled in miniature the east end of Lichfield Cathedral, the only other Decorated apse in England. The nave is towards the east fringed with chapels, of which there are two on each side opening into each other, and therefore in all probability anciently separated by parcloses; one of the doorways opening into them from the nave is still traceable These chapels may define the length of the choir. There are likewise chapels to the east of the transepts, two on each side of equal size extending the whole length of the transepts, and walled off from each other. They opened into the transepts by handsome arches. Those on the north side are the most perfect remnants of the church still retaining their vaulting, which is quadripartite rib and panel, as was that of the rest. The vaulting-shafts are in several instances brought down to the ground. This is held to be a proof that the architect of those buildings where this peculiarity occurs was a foreigner. If so this would account for the apsidal termination of the church. The mouldings of the pilasters in the nave are very square. The material employed is (either wholly or in part) the common sandstone of the country, resembling the Tunbridge stone. It retains its sharpness very well, hardening by time. Of the window tracery there are but a few vestiges remaining.

Roman Cippi.

A round or square column, without a capital, placed upon a base and used, (1) with inscriptions for milestones; (2) for boundaries, or memorials of remarkable events; (3) with epitaphs, to mark a burial-place. These cippi were commonly placed on the borders of frequented roads. They fixed them at the extremity of a square or oblong square spot destined for the place of interment, so that no other person could divest them of it or alter the purpose. They have been often mistaken for altars, because they are sometimes hollow at top, and pierced for the libations to run through the hole into an urn placed below. (4) The Cippus Pomœrii was the landmark which fixed the limits of a town. When they traced the circuit with a plough they put cippi from space to space, upon which they at first offered sacrifices, then built towers. Several of such cippi are in the Townley collection in the British Museum One inscription is to the memory of Viria Primitiva, the wife of Lucius Virius Helius, who died at the age of eighteen years, one month and twenty-four days. Below the tablet a festoon of fruits and flowers is suspended from two rams' heads at the corners, and at the lower corners are two sphinxes with a head of Pan in the area between them. On several cippi we find the letters S.T.T.L, that is, *Sit tibi terra levis.* It was also usual to place at one corner of the burying-ground a cippus, on which the extent of the burying-ground was marked towards the road and backwards to the fields.

Imitation in Gothic.

It has been said that no political constitution has ever prospered which has been borrowed from another nation, and has not been gradually altered and improved from its earliest formation, according to its own wants and emergencies, until it has attained its highest point of perfection. Similarly, it is characteristic of progressive art to arrive gradually by its own impulses, its animating and unexhausted powers, at consummate excellence; of retrospective or imitative art, destitute of this life-giving principle, to fail or partially succeed according to the skill of individual copyists. The latter is not a natural production; it is not the free exercise of genius inspired by a consciousness of present defects and yet untried capabilities, ever looking forward and improving upon the past; but it is the fettered effort of a mind, aware indeed of the beauty of the thing produced, yet unacquainted with the feelings and impulses that produced it. For this reason it appears probable that Christian architecture, having ceased to be progressive, and being no longer animated by the hidden power that gave it birth and reared it into mature excellence, will not thrive in its second birth under the process of what may be called inventive imitation; and that it will be the safest and best course to adhere, for the present at least, to close or mechanical imitation, as the only sure way of attaining that excellence which we admire, but have hitherto striven to reach in vain.

Vitruvian Proportions.

Vitruvius was of opinion that in architecture the proportion of columns is adopted from the proportion of the human body, and that the diameter of their lower extremity is to their height as the length of the foot is to that of the whole body. His assumption, however, is not borne out by nature, though it might be true of figures formed by art. This proportion is not to be found in the oldest columns either in Magna Græcia and Sicily, or in Greece proper; the height of most of them is scarcely five diameters of the lower extremity of the shaft. As the proportion of the head to the entire figure on some very ancient Etruscan works is less than we usually find it in nature, one must either say that the proportion of columns has not been determined from nature, or that the assertion of Vitruvius is not correct. If he had studied the proportion of the oldest Doric columns—of which, however, he makes not the least mention, notwithstanding their importance—he would himself have perceived that his comparison of columns with the human body is arbitrary and unfounded. For the purpose of lending at least some degree of probability to his hypothesis, we may suppose it was based on the proportion of some ancient figures of which the head constitutes a larger proportion than it does in nature. But even this supposition is not generally true; indeed, the more ancient the figures the less ground there is for it, for in the most ancient small Etruscan figures of bronze the head is scarcely the tenth part of their whole height.

NOTES AND COMMENTS.

English manufacturers who are desirous of extending their trade in South Africa would do well to announce the names of their local agents. This does not apply to South Africa alone, but to most of the colonies. We have received a letter from Johannesburg in which the writer asks, "Why don't the advertisers in *The Architect* and in other English newspapers also give us the names and addresses of their agents in this part of the world? It is all very well to announce in England that a man makes the best shovels, cranes, pipes or tools in general. But we poor buyers cannot be expected to lose time in sending communications to England and waiting until we receive a reply. We should like to do so, but necessity compels us to give our orders to the first traveller that visits us. Then when the transaction is finished, and it may be we are disappointed, we receive a letter or letters from some local trader, and find it mentioned in small type on his note-paper that he is the agent for those firms whose goods we should have preferred." The truth seems to be, English firms have not adapted themselves to the new conditions of trade. That several of the colonies are productive in a commercial sense Germans and Americans are aware. Commonly distant towns are treated as if they were within the United Kingdom, and orders for goods or applications for estimates can be obtained by sending a 6*d.* telegram.

Although photography has to a great extent superseded wood-engraving in France, there is still a regard for the old art among French amateurs. They like to have something of an artist's idiosyncrasy in the smallest illustration, and consequently wood-engravings are always sure of admission to the Salon. The death of Daniel Vierge on Wednesday of last week is therefore taken as a loss to French art. By birth he was a Spaniard, and his family name was Urrabieta. But he went to Paris in 1867 when he was only in his sixteenth year, and from the first he was not treated like a stranger. In 1870 he was able to suggest his tragic spirit in connection with some of the troubles in Paris. Edmund de Goncourt spoke of him as "l'unique illustrateur de l'heure présente," and the Commune offered opportunities enough for his talent. In 1870 he joined the staff of *Le Monde Illustré*, and in its pages he proved his versatility, for he had to translate, as it were, the drawings sent by correspondents who differed in manner and in tendency towards particular subjects. He was employed to illustrate some of Victor Hugo's volumes, and he was well adapted to suggest the excessive energy of some of the passages. He also drew about a thousand subjects for Michelet's "History of France." From time to time he represented subjects in distant countries, but none of them surpass those derived from Spain. He helped in establishing *La Vie Moderne*, and long co-operated in it. Some years ago he was struck by paralysis, which affected the whole of his right side, and he may be said to have lost the power of speech, for he could only utter incoherent sounds; but his native energy was not to be overcome. His left hand became also affected, but it was made to serve the muscles of his arm, and in that way his drawings during late years were produced. His life was a wonderful example of a man conquering extraordinary difficulties by his will, and apart from the great merit of his works he will always be remembered with sympathy.

There is an eastern fable which relates that a wandering dervish entered a royal palace and made himself at home in it. When brought before the Sultan he explained that he thought it was only a caravansera, and in proof he referred to the numerous occupiers of it who from their short tenure would only be regarded as wayfarers. Frenchmen who are acquainted with eastern fables are likely to recall the legend when they read the arrangements for the installation of M. Homolle, the new director of the Louvre. He is to occupy the apartments which had been assigned to the Imperial favourite, General Fleury. Originally the Tuileries and the Louvre were disconnected; then Du Cerceau received orders to unite them. In that way the Pavillon de Flore was originally constructed. The birth of the Prince Imperial, who was afterwards killed in Africa, made it necessary to have accommodation arranged for him, and under the direction of the late M. Lefuel, the Pavillon de Flore and the gallery adjoining were remodelled in order to obtain the desired accommodation. As governor of the Prince, General Fleury was lodged in a most sumptuous way. A part of the Prince's accommodation was a great hall for equestrian exercises, in which the vaulting is supported on columns with capitals of an original kind, for they consist of groups of attributes of the chase, war and fishing, which were executed by M. Fremiet, the sculptor. This costly hall is now used for making and storing casts, and the governor's sumptuous rooms are assigned to M. Homolle.

The Milan Exhibition which was to be opened next year will not be held until 1906. One of its peculiarities is to be a hall containing machinery in motion and showing processes in operation. The Working Hall for Industrial Arts will be open both to single exhibitors and to associated exhibitors, to display a series of machines for successive operations and the different transformations which raw material is undergoing before being made into finished products. The manufactures exemplified will include artistic and decorated paper, metal and wood, pottery and glass, textiles, tapestry, worked and decorated leather, wall-hangings, &c.

Campbell's line, "Distance lends enchantment to the view," was probably never heard or read by M. Saint-Saëns, the French composer, when discussing recently the impending reform of music in the Roman Catholic Church, which he would accomplish in a different way from that proposed. He said, "It is distance which creates mystery, and the mysterious character passes for religious. Gothic architecture has assumed a mystical air since it has disappeared from everyday architecture." It is likely, however, that although tastes may differ, men were more or less moved by the same causes at all times. If some of the airs by M. Saint-Saëns, which can be heard at weddings or funerals in parish churches, were performed in the Middle Ages, they would have produced as much effect as they do in our time. In an age when critics were without opportunities to express their opinions in newspapers, it is hard to realise the feelings of contemporaries. It could be argued that Greek architecture at its best was not appreciated because the Greek authors who have survived are silent about its merits. Mystics who wrote about the mysticism of cathedrals and churches may have expressed the lessons which ordinary pious people found in those buildings. The greater part of the sculpture is also evidence that carvers were not irreverent. It is true that occasional examples are to be found which ought not to be exhibited to young ladies from convents when they visit the buildings. But work of that class was confined to places where only a few were likely to find a morbid enjoyment in it. At the same time we must admit there are some grounds for M. Saint-Saëns's complaints. It is possible to be neglectful of the present and to idolise the past. "Old masters" are supposed to be examples of the giants that formerly lived, while modern artists are declared to be only their degenerate successors. It is some relief, therefore, to insist that to their contemporaries the giants were accepted as mere commonplace individuals.

ILLUSTRATIONS.

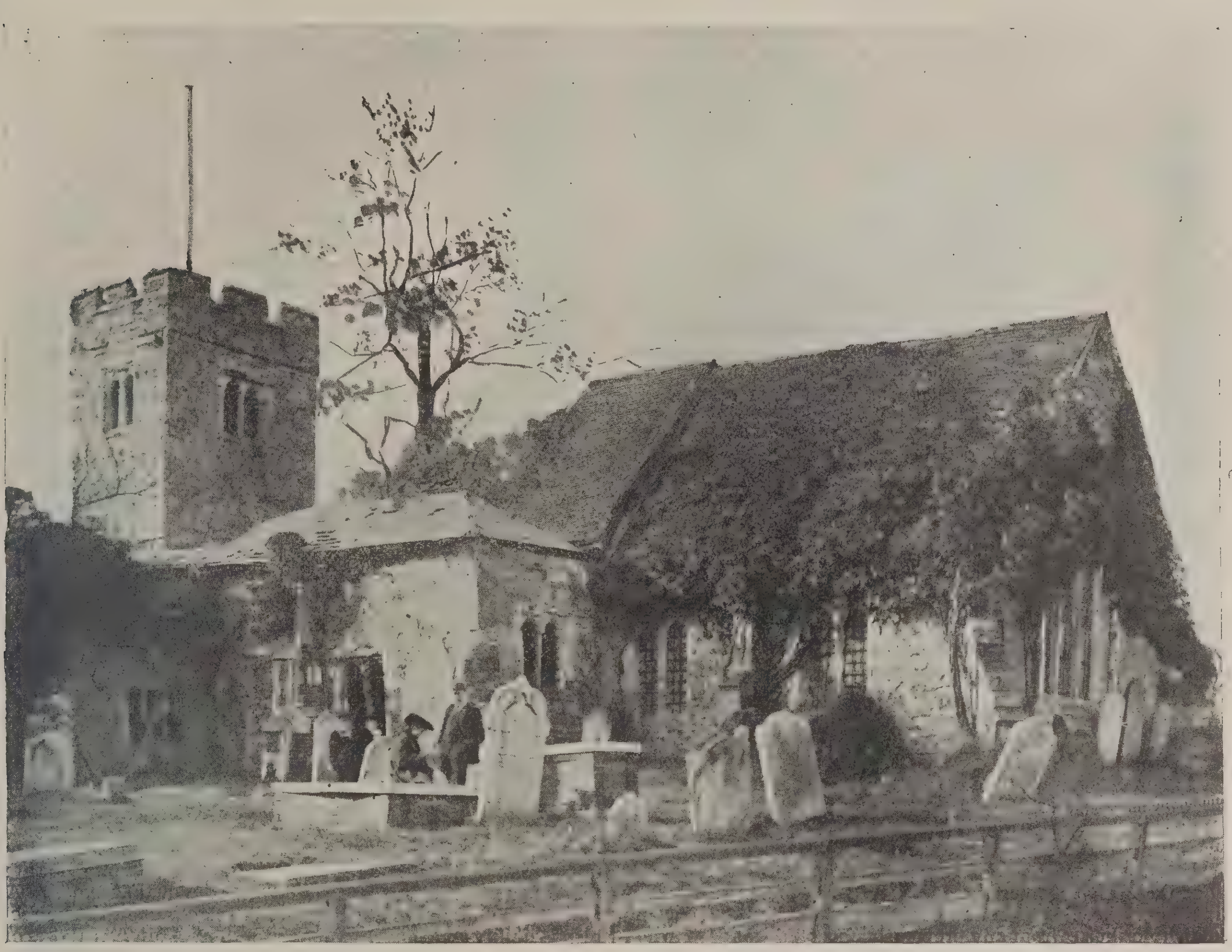
OAKMERE HALL, CHESHIRE.

WALMOOR HILL, DEE BANKS, CHESTER.

CATHEDRAL SERIES.—CHESTER: GENERAL VIEW OF THE NAVE.

ELECTRA HOUSE, FINSBURY, E.C.—SECOND FLOOR LANDING.

DREADNOUGHT HOTEL, BATHGATE.



OLD CHINGFORD CHURCH.

Reposing on high ground on the eastern rise of the Lea valley, and within the compass of a pleasant lazy afternoon stroll for the resident of north-east London, on an abrupt eminence from which delightful views of river and pasture and the blue distant hills of Hertfordshire can be obtained, a landmark seen for miles around, Old Chingford Church is thus pictured by one of our English writers :—" Disused, semi-ruinous and overgrown with ivy, in the midst of an old well-filled churchyard, among mouldering gravestones and surrounded by venerable elms, it would be hard to find its fellow for sombre picturesqueness within a much greater distance of London." The accompanying photograph, says a correspondent (" Pathfinder "), shows that this ancient edifice is succumbing to old age and neglect. Unfortunately there are no records available prior to those of 1460, although the nave is of much earlier work. There was originally attached to the nave a south chapel, which, falling into ruin in the early part of the nineteenth century, was slightly reconstructed and furnished with an unsightly flat slate roof. The porch is a charming piece of Tudor workmanship. The roof of the ancient nave, which appears to have been repaired about thirty years ago, collapsed a few weeks since with the result pictured, and this causes serious apprehension for the remainder of the fabric. Surely here is a labour of love for some of our archæologists in initiating a movement for the preservation of the remaining portion of this ivy-clad relic, which is familiar to and visited by thousands of Londoners in the course of the year, and has figured in prints and colour-sketches to so large an extent that it must be known to many who have never had an opportunity of inspecting the original. There is some talk of a legacy for the purpose of keeping the church in repair ; if this be so, it would appear to have been quite inadequate for the purpose. Prompt action is necessary if the ruin is to be preserved in its present condition.

THE SENTIMENT OF DECORATION.*

In dealing with the question of sentiment in decoration we are brought face to face with the difficulties of definition ; even the word Art, instead of being general like Truth and Beauty, is but limited, for when we have to speak of decoration we use the term " applied art " in contradistinction to " fine art," as if there was no quality of decoration in fine art or no fine art expressed in decoration. Again we divide fine art into the sections of painting, sculpture and architecture, and we may divide the decorative arts also. We can take the case in which decoration supports the structural idea, or the other case where the decoration is itself the sole purpose of display. Articles of use come under the former class, where the application of ornament actually assists the structural purpose. In the latter case the ornament superimposed being simply intended to decorate, serves no other purpose but adornment. Wall-papers and textiles would come under this second classification.

Amongst the multitude of expressed opinion let us endeavour to find some bases of criticism, some means of testing the value of good decoration, by which we can discriminate between what is good and bad, and in what measure sentiment enters, and its justification. Let me point out, in the first place, that where there is an implied service there must be an implied government ; and, as decorative art is, in one sense, a subsidiary art, we must see whether it fulfils its purpose of service, and decide when the application of ornament is a gain and when it is a drawback, for let us never forget that the mere application of ornament is not decoration. This fact cannot be too strongly insisted upon ; it is the application of ornament that best suits the purpose that is good decoration, the ornament that not only decorates the article, but supports the sentiment of its use. We might go further, I think, and say that the ornament which expresses the true structure as well as the sentiment of structure, and so furthers the better adaptability of the object for the purpose for which it was made is good. That is the test of the application of decoration to useful things. I shall have more to say on the question of sentiment later, but I would point out that this basis of criticism will not serve us in judging designs for wall-papers and textiles, where the purpose of decoration, *qua* decoration, is simply to enrich, and has no structural purpose to support. In this case the designer has a freer hand, as he is not trammelled by the sentiment of construction. There may, however, be a danger in this freedom, for if the designer places upon a rich material any pattern that would disguise the beauty of his material, then it is bad; but if on the other hand he enhances the beauty of that material, it is good. This is the same principle as that the application of ornament must be for the improvement of purpose; in other words, it should support the character of the article upon which it is displayed.

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* A paper by Alfred East, A.R.A., read before the Applied Art Section of the Society of Arts on April 19.

It is doubted by some whether the designer has a right by the application of ornament to disguise the character of the material; it may be contended that in the enrichment produced he has that right. If this be admitted, it opens the question that the designer has the right to deceive, that the material may be taken for something different from what it actually is; the other view is the one that joins issue with that I have already propounded, viz. that the application of ornament should support the character of the material upon which it is applied.

We may leave this vexed question with the remark that if the material be itself rich, then there can be no object in disguising its identity, but if, on the contrary, it be poor, the decorator has reason for consideration if by his skill his pattern claims your attention before his material. Mean things can be made beautiful by the magic touch of the decorator, and in the higher expression of his art. This is an additional interest, inasmuch as the artist embodies within his designs an expression of his own individual appreciation of beauty, an expression of sentiment, but so governed and restrained that it is made to serve the purpose he has in view. We see certain designs by eminent designers of our day, and we say this is by one and that is by another. Why do we know this? Because we understand by their previous work the method by which these artists use nature, and select from her what they require for their purpose.

Let us be careful, when we see any original design, to consider its claims upon its own merits before venturing to express an opinion, lest posterity call us fools. Of course, it is easy to express an opinion when we have a recognised standard before us, but when new conditions arise which call forth new expressions we must consider the questions afresh, taking into consideration those new conditions, for it would be obviously unfair to criticise from any previously accepted standard when the conditions are not the same. Let us remember, on the other hand, that the best art of the past has become the convention of to-day, and in like manner the best modern work will form the convention of the future. Let us never condemn any art because it is new. We may respect the good work of the past, and honour the craftsmen who produced it, but at the same time we should have the same self-reliance, since we have inherited their responsibilities, for I believe we are as capable of sustaining our responsibilities as they were of sustaining theirs. That is the spirit in which we all should work.

For the sake of showing the evolution of the idea of sentiment in decoration we may look for a while at the causes which led to its wider expression. Thus, through the Classic to the naturalistic, and so on to the emotional. I mean by the emotional that quality which expresses sentiment.

The basis of the Classic form, for the sake of illustration, may be said to rest upon the desire to obtain symmetry by the equal division of spaces; thus a typical frieze received a pattern distributed with mathematical justness of distances; it was only when artists introduced the literary idea that they departed from this scientific expression. This may have arisen from a highly cultivated intellectuality, a culture whose attitude towards life was the desire of a perfect balance, a system in which no expression of sentiment or expression of the emotions found a place, but which united the ideals of life set up by the designers and their attitude towards art. Such an attitude, however, was dangerously near becoming the expression of a mere scientific formula. It was like a sum that was proved; it was finished, and nothing more could be said, as it leaves us uninterested and cold. From this Hellenic idea of the perfect justness and balance which is so predominant in the work of the Greeks there arose in the Græco-Roman period a softer feeling, a more human touch, which long afterwards culminated in the decadence of the purely Classic idea. In its place was developed an order of decoration founded upon the actual forms and colours of nature. The early Italians, no doubt being influenced by many different conditions of life from those which had governed the thoughts of their forefathers of Pagan times, and coming into contact with a religion in which the human interest was the dominant note, would naturally be inclined to express in their decoration, as they did in their fine art, those feelings which were engendered by the Christian idea. Christianity was a real thing to them, and their pictures served to illustrate the facts of the lives of its founders, therefore it was but natural that these decorations should express real things. This feeling was no doubt enhanced by their love of colour. The sumptuous pigment of their pictures found a place in their decoration. The introduction of this frank materialism may be a protest against the cold formality of the Classic school, in which, instead of a methodical distribution of pattern, we get the festoons of fruit and flowers, &c., realised with all the imitative faculty of which the artists were capable. It is to the evil example, I think, of this work which is to be found in some of the old palaces of Italy, certainly in the galleries of the Vatican, that the degraded decoration of the modern Italian house can be traced. It seems to have been a protest against the cold formalism of a previous order, a rebound from former lifelessness. Be that as it may, it was one of the interesting phases preceding a later development, which was to come through a wider outlook and increased freedom; probably the Reformation, and later the French Revolution, had much to do with this. Men began to think more for themselves in religion and politics, and why not in art? It broadened their power for the inception of new ideas, and had the result of preparing the way for the dawn of that quality which marks the art of to-day. Not only is fine art affected by it, but its influence is felt in the decorative arts.

No doubt this freedom brought with it evil as well as good, and whatever were the evil consequences of the overthrow of all accepted traditions in the past, there arose from amongst the banalities of decorative art of our time the beautiful flower of a truer expression of what was the personal character of the man. It may be an open question whether we are sufficiently educated to enjoy this full freedom, and to be entrusted with this greater responsibility. We know that many, in their freedom, not only throw over the formalism of the past, but unfortunately discard its principles as well. The consequence is that more bad things are done than were possible under the restraining influence of the Classic school. If the craftsman could invent nothing in the earlier days, he had at least authorities which every one respected to copy from, and could thus be saved from complete failure. But how different is the designer of to-day; he is expected if he has anything to do or say to have the courage of his own opinion. His field of work has become vastly wider. Altered conditions of life, increase of wealth, love of change, were some of the new conditions imposed upon him, and although it gave the opportunity for the impostor, it also gave a freer field to the qualified man. All are displayed before the public, and it places upon the public a responsibility of choice. What are they to do? In the old days they could have appealed to accomplished facts and to tradition. They could see that, inasmuch as the thing produced conformed to these traditions, it was good, while inasmuch as it did not do so, it was bad; but where are the standards for the poor "man in the street" now? For the craftsman himself, having lost the steadying influence of past experience, constantly shifted his ground—sometimes to this side and sometimes to that. The weak man either hung upon the old forms, or timidly imitated the new. A leader might arise, and, immediately after his recognition, a crowd of followers who had not force of character to do anything of their own would present a diluted representation of the stronger man's work.

But we have at last felt our feet, and have regained a confidence that has impressed itself upon the work of to-day. At no time in the history of decorative or fine art has this confident personal factor been so dominantly expressed; no doubt it is the result of many influences, but these influences coming into contact with open minds made an impression which was to bear fruit in a different form from that which governed the older school. The material was ripe for these impressions, and amongst the varied influences was one of the first importance, and that was the personal or individual expression of the artist's opinion, an opinion which was engendered by his own surroundings. Perhaps the first was the influence of other countries. I believe that much may be attributed to Japanese art. We know that the art of China was introduced to Japan a thousand years ago, and we know also how it became assimilated by the Japanese, and so the art of Japan has been (more or less) assimilated by us. One very interesting characteristic we have adopted, if not in the letter, yet in the spirit, is the strong quality which had been so rare in ancient decorative art, that is the quality of sentiment.

May I be allowed for a minute to digress, to explain what I mean by sentiment? I mean by the term sentiment, not exactly the expression of human emotion such as is expressed in pictorial art, wherein the option of the designer, which is a human quality, enters into his work, as well as the suggestion that there is something further than a mere expression of a mathematical conclusion, something not arrived at by a series of forms of equal size displayed at equal intervals, but of unequal forms so placed that the *ensemble* is satisfactory, conforming to the desire for symmetry and balance.

May I remind you that the straight line and curve form the bases of all pattern, that the straight line treated as a symbol expresses no sentiment because it is a definite thing? It suggests nothing beyond itself, it has no irregularities no sense of movement, it is dead, and admits of no question. It depends upon one simple fact—that it is straight. Not so the curved line—continue this, and you make a completed figure. No figure can be made with a straight line; it requires a series of straight lines in contact or conjunction to produce a figure, whereas a curve has, within itself, an element of suggestion. Now this is my point, that the arc of a curve is at the discretion of the designer and can be modified and increased to serve the purpose of his decoration. It is not so with the straight line, which is not amenable to any such use, for a straight line expresses death and the curved line vitality. The field for decoration with straight lines is a very limited one, except by the addition of lines which may form angles, but that of the curve is practically unlimited. Where the two are used in conjunction there is opened out to the designer the whole possibility of change, by which the personality of the designer may be fully manifested. Let us take, for the sake of illustration, two panels, one decorated by patterns arranged in geometrical order; the spaces between each and the edges of the panels are equal. That expresses no sentiment; it might continue, like a straight line, *ad infinitum*; but take another panel of the same proportions, and place upon it a curved line of unequal direction, you will at once open the door for a hundred possibilities of form.

The Japanese has taught us the value of this inequality which we call sentiment; when he describes a synthetic line in his design and refreshes it with a counterpoint of some intense colour, you may ask, where does the principle of symmetry enter, where is the satisfaction that the space is perfectly decorated? How can it satisfy the observer that it is just? We might compare it with a pair of scales; in one scale is a weight of iron and in the other a bag of feathers. The bag of feathers must of necessity be larger in bulk although it balances the iron, but the mathematical distribution of ornament may be compared with the weight in the one scale and a piece of metal in the other, the balance being obtained without disproportion of bulk. This decorative arrangement of bulk (that is, light and dark) is called by the Chinese "Notan," a quality for which we have in English no specific name.

In this difference of bulk arises the idea of sentiment, a quality that fine art shares with applied art. For a picture so composed that it gives one a sense of unrest in its arrangements of quantities, is not good. In landscape-painting this inequality of quantities is accepted almost as a principle, for we seldom see a picture that is satisfactory in its composition that repeats the same forms without variation across the canvas; this element of inequality forms the foundation of the expression of sentiment in decoration.

The artist has the option, like the designer, of choice of all material things; to him is given authority on the whole earth. If he doubts his authority, and with a timid heart takes what comes first to his hand, he exerts no authority of choice. He is permitted to select what he requires from nature that will best serve his purpose. We laugh at a man who deliberately selects wood when iron would be better, or *vice versâ*, therefore we may give to the artist or designer the same freedom of choice. If the artist designs this or that, it is his, he can take it, and in this freedom he must recognise his responsibility. There is no excuse for him to say that what he produces is like nature. That is not enough, the camera will do that; but he has so to use his opportunity that it will become the medium of his own expression of love or praise, or in the case of the designer, that he has the ability to select those forms which best suit his purpose, be that purpose what it may. Herein lies his responsibility and herein lies his pleasure also.

I claim that no matter how well a picture tells its story, if it offends this principle of fine composition it is not great; there is no reason why a picture should not be equally true to nature, and yet be so composed that it may be called decorative. I do not quite like this word decorative as applied to fine art, because I think it is generally used in a wrong sense; fitting contains, I think, a better meaning. If the artist or craftsman deems a certain quantity of lights and darks, or a certain quantity of colours in conjunction, to be fitting for his purpose, no matter if he be designing a carpet or a landscape, then he may call it decorative, but there is a feeling abroad that the decorative picture should lose something by the fact that it is decorative. I wish to protest against the acceptance of the word in that sense. I would rather have the one which is conveyed by the word fitting, because then it will be more easily understood that the landscape-painter is perfectly within his rights when he selects his trees from nature, which will be the most fitting and suitable for his composition. The result will be, in the best sense of the term, decorative. There is also the feeling abroad that this quality in some way or other detracts from the qualities we should look for in a fine work of art, such as fine feeling and high sentiment. May I ask you if it is so in the case of Turner and Titian? In the case of Turner, not only is his black and white admirably arranged, but his other colours conform to the same arrangement, and yet we cannot say that they live by the merit of being decorative only.

This sentiment or movement is the predominant quality expressed in modern applied art. The decorative artist is not satisfied by merely covering his surfaces with ornament, but he has created forms that harmonise and support the useful purpose of the article upon which he has placed them. There is no doubt that the materialistic features were unsuitable for decoration; they offended the sense of the fitness of things. We are not now pleased to put our slippers upon the recumbent tiger, however peacefully he may be disposed on the woolwork of the rug; the gentle lamb upon the ottoman, which seems so unconcerned by the proximity of the tiger, raises no enthusiasm in our hearts, and we have condemned them to the limbo they deserved. There was an attempted revival of bad taste a short time ago in the way of painted stools and iron pots, and long drain pipes for umbrella stands, but they have succumbed to sensible and rational things; if in this new art it becomes extravagant or *outré*, these extravagances will disappear before the common-sense requirements of a useful purpose. A chair is beautiful when it is constructed on fine lines, but if in its construction it loses its useful purpose, it cannot be considered beautiful. The reason why those of Chippendale are examples of good taste to-day is that they never lost their useful purpose by the application of art.

This sentiment of decoration is not only expressed by application to useful purposes, but it is enhanced by the abandonment of the imitative quality which mars so much otherwise good work. We may admire a modern Sèvres vase for its paste and glaze, but it is at once condemned for its hideous attempt at deception in the way of painted flowers. We want flowers in the vases, not upon them. How true is the instinct of the Japanese in this respect; they never select a vase which is to hold flowers that can in any way compete with the flowers that it is to hold.

There is another matter which, although not bearing directly upon the subject in hand, is interesting, as an evolution of design. I refer to some of the newest inventions; take, for instance, the motor car. Contrast some of the newest designs of the motor car with the horrible motor cab; in the one you feel that horses are not required, and that it can do its own work itself, but in the other case we ask where are the horses? for the vehicle seems incomplete without them. The evolution of the locomotive and railway carriage and a hundred other things point to the fact that we are not merely satisfied that the thing *can* do the work, but that it should possess the appearance that it can do it also. It is not merely necessary that an iron bridge be strong and suited for the purpose of its construction, but it should also possess the sentiment of that strength which conveys to the mind the suitability for its purpose. A bridge that is actually strong enough may have the appearance that it is too fragile, or, on the contrary, too clumsy. The appearance, as well as the use, is what we desire to see. This is what we may call the sentiment of applied art in another sense.

The application of any decoration to an iron bridge which does not support the idea of strength is out of place, for no ornamentation can be tolerated if merely used for ornament. It must support and enhance the appearance of its purpose. Our intellect is constantly being called upon to justify errors of this kind; for example, we know perfectly well that there is a solid mass of concrete or stone to which the rods of a suspension bridge are attached beneath the earth, our intelligence informs us that it must be so, but still, as there is no visible proof that it is so, we feel that the sentiment as well as the fact is not expressed. This sentiment is an art factor which is to-day more and more appreciated, it is only to be excluded when a higher necessity intervenes to prevent its adoption. For instance, we find in our plate-glass shop-fronted houses the whole superstructure apparently resting upon the glass, and we have accepted this with a feeling that it is one of those exceptions in which merely its useful purpose has a claim. Personally I do not think so, but a shopkeeper will tell you that in proportion to the space in which he can show his goods so is his proportion of business done.

But, as a last word, let me say when the designer has a free hand he can, to a very eminent degree, express himself with that freedom which has led to the advancement of his art. Being freed from the trammels which thwarted him at every turn, he ought to have developed a new expression, he has been placed in a position which is unique in history. At no time had he before him such a variety of articles upon which he can express his decorative skill. At no time had he so much data of previous forms of applied art. Quicker and cheaper forms of intercommunication of country with country have given him a wider field of study, and the multiplicity of articles to decorate gives him the opportunity of exerting his invention. Has he responded to his opportunity? I think in a great measure he has, for if he has abandoned the purely naturalistic forms for conventional naturalistic ones, these conventionalised forms in themselves have become beautiful, more interesting to us, because their elements which he has selected from nature have been impressed by his own personality, the natural objects have received an additional interest because he has made them conform to his own conventions. His art is nearer to nature because he has observed the laws of nature, that is to say, he has sought that the object he constructs should serve the purposes of its construction, which is the first law of nature. Herein lies the great possibility of this new order of decoration; it must and will influence our lives and make itself felt throughout our applied art, and add dignity and style to our fine art, and what is "style" in art but the perfect display of contour and quantities within the given area of the canvas, in which form and colour unite to raise the highest sentiment and the finest feeling of the subject painted?

Pictures considered as a decoration should reach the highest possibility of that purpose, and there is no reason why they should lose one jot or tittle of these qualities which we have hitherto considered as fine art. As I have said before, the fitness of things is a quality which ennobles a work of art, and no picture, no matter with what technical skill it be painted, and no matter how well it may tell the story it seeks to illustrate, if it is not fine in composition, with a perfect expression of balance of parts, cannot be a great work. Many of our younger painters are satisfied with painting a "bit" from nature on an extravagant scale, and no matter how large it still remains a "bit" and not a completed thing. It is as useless to expect to find a ready-made composition for a noble landscape in nature as it is to expect to find the pattern for an iron stove. Man must come in with his undoubted authority, and take from nature what he wants for his purpose and mould it to his use, be it a design for a wall-paper or a picture, and all that which suits the purpose of his intention; and I should make this answer if any one asked me how am I to know a good design from a bad one. I should reply that all good design assists the purpose of the article upon which it is placed, and bad design spoils that purpose.

SOCIETY OF ANTIQUARIES OF SCOTLAND.

AT the last of the monthly meetings of the Society for the present session Mr. A. H. Millar, Dundee, communicated a notice of a number of sheets of ecclesiastical music found in the burgh charter-room of Dundee, and exhibited the recovered leaves of the missal to which the music had belonged. In 1888 he had submitted to the Society several sheets which he had found pasted as stiffening into the covers of an old protocol book of Robert Wedderburne, dated 1580-85, and the sheets now found were similarly obtained from another of Wedderburne's protocol books, dated 1575-76. All the sheets form part of the same volume of a Roman missal, the text being in black letter with red uncials, and the staff lines and rubrics also in red, and the large initial letters decorated with grotesque faces and floral scrollwork. Altogether six and a half pages of the missal have been thus recovered. Robert Wedderburne was a younger brother of the first Alexander Wedderburne, town clerk of Dundee, and was admitted a notary at Edinburgh in 1575. He practised in Dundee, and was made procurator-fiscal in 1589, and died in 1611.

Mr. J. Graham, Callander, described a stone mould for casting flat bronze axes and bars, found two years ago in the parish of Insch, Aberdeenshire, with notes on the occurrence of similar moulds in Europe. The mould is a rather thin, flat block of reddish quartzose sandstone, having on its different surfaces matrices for four flat bronze axes of different sizes, three for tools of smaller size than the axes, and two for bars or ingots. Such stone moulds are by no means common in the British Isles, and are less common on the Continent. Eight have been recorded in Scotland, three in England, five in Ireland, one in Belgium, two in France, three in Spain, two in Italy and two in Switzerland. It is curious that none are recorded from Sweden, Norway, Denmark or Germany. None of them have been found associated with any other remains of any special character. This mould probably belonged to an itinerant bronze-founder, and the stone of which it is made does not occur in the district.

Mr. Ludovic M'Lellan Mann spoke about composite stone implements, with special reference to the primitive flint-toothed threshing-machine called tribulum by the Romans, two modern specimens of which he had recently obtained in Turkey, and presented to the National Scottish Museum of Antiquities. He defined composite stone implements for cutting or other purposes as formed of flints or other stones mounted in a setting of wood or other suitable substance, describing the harpoons and knives of prehistoric Scandinavia and Central Europe, the javelin and sword-like weapons of ancient Mexico, the saws and sickles made by inserting a row of serrated flakes in a wooden handle used in prehistoric Italy, and a similar implement from Egypt. The tribulum was then described as a sledge of wood, armed on the under sides with some hundreds of flint flakes set in rows, which is dragged over the harvested material spread out on a prepared threshing-floor, whereby the straw is cut up and the grain separated from the ear. This interesting archaic survival is still used as the common threshing-machine in many parts of the East, but it was argued that it could never have been used in Britain. The method of manufacturing the flint flakes for the implement and setting them in the wooden framework was described as seen by the author in Turkey.

The Rev. A. Mackay, Westerdale Manse, Halkirk, gave an account of the Aberach-Mackay banner, now exhibited in the National Museum. The earliest known reference to the banner is in the first statistical account of the parish of Tongue, written about 1792 by Rev. W Mackenzie, who states that the family of Mackays descended from John Aberach are reported still to have in their possession his banner. In this he was but relating what was traditionally believed during the latter part of the eighteenth century, that this was the battle-flag of John Aberach, who led the Mackays at the battle of Druim-nan-coup in 1432. It is of white silk, now greatly discoloured and in a tattered condition, being only a fragment of its former size, measuring now only 36 inches by 20 inches. Evidently the longer measurement represents the former height of the banner, and this would make the charges on it to be correctly placed. They appear to be a lion rampant on a shield with a double tressure. Above the shield is a crest of a hand erased with the fingers extended, round which is the legend, "Verk visly and tent to ye end," and across the palm of the hand are the Gaelic words, "Be tren, be valiant," the old slogan of Mackay. The charge on the shield is different from that of the principal family of Mackay, while in crest and motto they practically agree It was probably because of his claim to Royal descent, through his mother, a great-granddaughter of Robert II., that John Aberach assumed the rampant lion and the double tressure. Though the banner is of little artistic merit it claims to be one of the oldest clan banners now extant in Scotland.

Dr. Joseph Anderson described and exhibited photographs of a sculptured stone, with an ogham inscription, in the possession of Sir Francis T. Barry, Bart, M.P., at Keiss Castle, Caithness, and two fragments of sculptured stones recently discovered by Rev. D. Macrae, B.D., at Edderton, Ross-shire. Mr. Alexander Gray, New Deer, Aberdeenshire, exhibited a stone mould for two flat bronze axes of different sizes, a chisel, and a bar 6 inches long, found in the parish of New Deer. Mr. Alexander Hutcheson, Broughty Ferry, gave a notice of the discovery of the remains of an earth-house at Barnhill, Perth, which was of the usual form of a long, narrow, curved underground gallery. The sides were built, but the roof and part of the structure towards the entrance were gone. No relics were found in it except one flake of flint with secondary working on one edge and a few bones of animals. The opportunity of investigating this interesting discovery was afforded by Sir Alexander Moncrieff, K.C.B., on whose property it is situated, and who supplied the workmen to clear it out. Mr. M. M. Charleson, Stromness, gave a notice of some burial mounds examined by him in Orkney. One at Harray contained a cist, with an unburnt skeleton and a whorl of bone, an unusual accompaniment of a burial of this kind. Another mound in a neighbouring island, opened by a farmer, contained a cremated interment with two bowl-shaped brooches of bronze of the ordinary Viking type, a bone armlet, an amber whorl and a portion of a bronze pin. Another in the parish of Stenness contained an unburnt burial with a long bronze pin, having a flat head cut into facets, and having a ring through it.

ARCHITECTURE IN GLASGOW.

IT is satisfactory that in extent the present collection in the Royal Glasgow Institute is a great improvement on those of recent years, and that it creditably occupies the liberal space given it in the new galleries. Public interest in the representation of architecture, says the *Glasgow Herald*, exists even if it is in a modified degree. One means of fostering it is to get examples from sources other than local. It used to be that English architects were well represented; this year only two send in. Not only their work, but some of the great French drawings should be obtained, as quite the finest type of architectural delineation. Of another sort than current everyday work, executed or projected, is the bringing together of young architects' studies of ancient examples, some of which might be had and very fittingly find a place in what is after all chiefly a painters' show. It would be suggestive to see and compare how our painter treats an old building, how our architect student sketches and measures it, how the Frenchman not only makes a survey of it but follows up with a restoration. Of the drawings it may be said generally that pen-and-ink find most favour; a few are in monochrome work, a very few in colour. No doubt the question of reproduction has a good deal to do with this choice of medium.

Public and commercial buildings form the largest part of the exhibition, domestic work comes next; ecclesiastical specimens are few. The largest drawing, as the largest work, is the "Addition to the Central Station and Hotel," by Mr. James Miller, where, of course, lines of existing work must be followed, but something more than mere continuation is seen in the special storey that marks the great dining-hall and in the larger scale employed for the station wall; when completed the Hope Street façade will be a magnificent one. It is now that the citizens should see what is proposed by way of bridge over Argyll Street, but municipality and big company alike are strangely backward in this respect. There are one or two civic projects on hand of which a foreview would interest many, the green boat-house for example, the new Central station in St. Andrew's Square, &c. "City Improvement Work at Nelson Street," Messrs. Thomson & Sandilands, consists of a very large warehouse with an ornate corner to Trongate; the new block adjoins, and inevitably crushes the fine old Tontine, which itself will doubtless disappear before long The same architects show Stobhill Hospital in a large bird's-eye view, and one realises what an extensive affair a modern hospital is. Architectural effect is confined pretty much to the administrative block with its water tower; the material is chiefly brick, and the wards are of the factory-like type that appears to be unavoidable, but on the infants' side something approaching a village effect is attempted by an assemblage of cottage blocks.

The "Elder Library," Mr. John J. Burnet, is a small but sumptuous bit of work, and its situation in a park fittingly displays it. The gift to Govan is not a library only, but a fine work of art. The style is Classic. A feature of the front is a curved colonnade; to the rear the feeling is of eighteenth-century French. Everywhere most carefully detailed, in the committee-room there is a display greater than the purpose of the apartment seems to call for. The Library at Springburn, Mr Whitie, is one of the town's series of district establishments, and much more modest; a one-storey building, no construction of decorative features has been thought of, but the entrance is suitably emphasised. "West Calder Library," Mr. William Bailie, a very patchy drawing, and the building rather villa-like. Much better is one by Messrs. Ramsay & Walker, that very well expresses its purpose. There are three designs in competition for Hamilton town hall and library, none of them the selected one, and comparison must be confined to the exteriors as no plan is furnished. That by Messrs. Sinclair & Ballantine, premiated, is in English Renaissance, of rather a heavy type, but consistent, and has a central tower with square pyramidal steeple: another, by Messrs. Douglas & Paterson, is lighter in treatment; in place of tower it has but a wooden lantern. Refined architecture is shown in a good wash drawing A third, by Messrs. Salmon, Son & Gillespie, is of the advanced school, with rather a stringy tower, unsatisfactory because large columns and entablatures are frivolously proportioned; the unconventionality offends here that may pass in a fireplace or cabinet-work—shown in a slight pen-and-ink sketch. All these designs happily have frontages of only two storeys This unusual reticence is explained by the fall of ground to the back.

The large block of offices by J. A. Campbell at the corner of Hope and St. Vincent Streets is shown by an indifferent photograph; another project by the same for an insurance building promises well. It is of a type that has emerged recently, with a large order as centrepiece, wings rising higher and with ample projections, so that in its southern aspect the light and shade should be effective. A large warehouse block in Mitchell Street by Messrs. Burnet, Boston & Carruthers, has variety given by arches introduced centrally in the upper storeys and by flat oriels that, according to modern usage, are no longer confined to dwellings and quite happily break up a wall face. Messrs. Annan's new studios in Sauchiehall Street, Messrs. Honeyman, Keppie & Macintosh, illustrated by a coloured geometric drawing, has a feature in its recessed shop front worth imitating. Sculpture is only too rare in the embellishment of building fronts, so its employment here is welcome—two seated figures with ample draperies that give mass, and placed not in niches but on projecting consoles, and thus they better diversify the façade. The strapwork on the gable overhead seems too large in scale. A warehouse in Howard Street, Messrs. Beattie & Morton, is in the new art that is now in the way of becoming a fairly systematised style; in straightforward stone construction if a little flamboyant aloft; a detail pencil drawing shows the gargoyle-like projections that are both gratuitous and uncouth. Mr. Lindsay has effectively employed brick for commercial structures. Mr. Skirving's scheme for the East End Exhibition is a Moresque treatment, highly coloured, arresting and appropriate to its purpose. A committee-room in the handsomely got-up District Offices, Hamilton, by Mr. Cullen, has pillars, coved ceiling and a fine timber fireplace, all in the large manner, with novel and refined detail that characterises the whole building. A very beautiful coloured perspective of a proposed bridge for Sydney Harbour is by Messrs. Baptie, Bonn & Scott, though the shadow on the water is as cast on a solid, and the design satisfies so far as metal part and stone have the qualities of the material openly in evidence. Wishaw Academy, Messrs. Steel, is the only educational establishment exhibited. It is sensibly treated and expressive of its purpose.

In domestic work we are well represented locally. At Pollokshields among the largest residences is "Redlands," by Mr. M'Kellar; restrained, picturesque rather than symmetrical, and tending to Gothic, the bit of timberwork is an excellent foil to the prevailing solidity. "Oatlands," by the same, is also above the common run. Both of these are wash drawings. Two houses are by Messrs. Burnet, Boston & Carruthers. Mr. Dunsmuir's is a domestic version of Scottish baronial, and Mr. Biggart's with the round corner tower repeated but emphasised. "Coupar Grange, Perthshire," by Mr. James Miller, a remodelled country house on Classic lines, with pillared verandah and cornices, apparently painted white, is extremely pleasing; the photographs of the interior show screenwork and sculptured fireplace in the hall, the public apartments spacious, but comparatively low ceilings in panelled plaster with pendants There are two very interesting houses at Skelmorlie for Mrs. M. Steen, Messrs. Watson & Salmond, in English Early Renaissance of a solid type, with windows mullioned and transomed, a low, flat tower with embattled parapet and a small bit of half-timber-work; that for Mr. Hugh Brown, by Mr. Clifford, has rather a quaint entrance, and the three timber gables to the garden front have character; from its disposition the plan appears to be an interesting one. The house at Helensburgh for Mr. Blackie, Messrs. Honeyman, Keppie & Macintosh, is in aggressive new art style; the general massing is orthodox and not unpleasing, but rough-cast covers all, surely a misuse of the material. The design is purely negative, and illustrated by freakish pen-and-ink views. Houses at York and Liverpool, by Mr. F. Rowntree, are of cottage type, and perhaps both err in being ostentatiously humble. The first has pantiles and projecting eaves. The drawing is coloured, and a rather coarse one. A pretty boathouse in timber and tiles, always a favourite subject, and an annexe to a sailors' home, by Messrs. Niven & Wigglesworth, in dignified Jacobean brickwork, with Mr. Rowntree's pair, make up the contributions from English architects

"Wolfcrag," by Mr. W. Reid, a small one-storey house, is represented in two nice pen-and-ink views. There are some frames of photographic illustrations of interiors. Messrs. Salmon, Son & Gillespie show four houses to which additions and alterations have been made; and there is much novel and beautiful work in the form of fireplaces, doors and panellings, plasterwork of ceilings and metal in electroliers, &c Further interiors by Messrs. Stewart & Paterson, by Mr. H. N. Paterson and by Mr. Morris are all interesting, whether rich or simpler. In regard to these interiors it must be said that photographs are prepared so charmingly nowadays that it is hard to preserve a critical attitude towards the fabric proper, the architect's part, when confronted with cunningly-arranged lights and still-life accessories, the very things the architectural draughtsman fails in. A large drawing of a banqueting-hall, by Mr. Ednie, much after Edinburgh Parliament Hall, but refined, with stone walls and open timber roof with heraldic emblazons on the hammer-beams; and, by the same, a coloured decorative sketch of a fireplace in new art manner, are both prettily presented as drawings, and show fanciful yet restrained design. Another decorative project—the white boudoir—Mr. G. Logan, has actual little beads sewn on it where these are suggested for the real decoration as has been done in some most up-to-date interiors; a small joke that one may hope will go no further, else we shall have samples of textile hangings stuck in drawings next.

Of ecclesiastical examples Dundyvan Church, by Mr. Cullen, is the most important: Gothic, with a crown spire, but of the English St. Nicholas type, more elegant than our St. Giles's or King's College, and halls that group well with the church, illustrated by a fine pen-and-ink drawing. All Saints, Jordanhill, by Mr. James Chalmers, is a large model reduced, having central tower, transepts and side aisles; the style is Norman. A competitive design for the same subject by Mr. Clifford is on the model associated with churches of moderate dimensions; a third design by Mr. H. D. Walton has a tower of Scottish east country look, otherwise the style is Early English. Erskine U.F. Church, Burntisland, by Mr J. B. Wilson, is in Perpendicular Gothic; not a large building, but finely piled up, with a good square tower that has a corner turret. The interior of Trinity U F. Church, Ayr, by the same, has rather a poor roof; its stone porch is good. Dennistoun Established Church, Mr. P. M. Chalmers, is Norman, very quiet but expressive.

Stained glass is represented in a few drawings, but the time is come for the Institute to provide facilities for the exhibition of actual work. A premium design for a large Gothic window, by Messrs. Stephen Adam & Son, has a good deal of pictorial interest without detriment to the harmony of its many compartments.

BRIGHTON TRAMWAYS CASE.

THE legal aspect of the contract between Messrs. Macartney, McElroy & Co, contractors, and the Brighton Corporation, for laying the first electric tramways in Brighton, which forms the subject of an action brought by the contractors, part of which seeks for the recovery of some 16,000*l.* for work done under Section B in connection with the laying of the wood-paving on certain of the tramway routes, was argued on Monday before Mr. Justice Grantham in the King's Bench Division of the High Court of Justice. It will be remembered, says the *Sussex Daily News*, that a jury found against the Corporation on all the questions submitted to them.

Mr. Cautley for plaintiffs asked his Lordship on the findings of the jury to dispose of the action so far as it had been gone into, and pointed out that only part of the action had been heard, viz. that relating to Section B.

Mr. Moulton, interposing, said he had not yet been heard on the contract.

The Judge asked Mr. Cautley if he was asking him to find in his favour on Section B.

Mr. Cautley replied in the affirmative, and added that he wished his Lordship to say what he would do relative to the action on Section A.

Mr. Moulton pointed out that he postponed his argument on the contract at the former hearing of the case.

Mr. Cautley, proceeding, asked his Lordship either to dispose of the whole action or say what he would do with regard to that part not yet heard. The claim on Section A was for a sum of about 2,035*l.* 15*s.* 5*d.*, and was in respect of the difference between the price named in the tender and the amount certified for, and also for the extra works plaintiffs did, less what the Corporation engineers had certified for. The total figures of the plaintiffs' claim, over and above Section B, was about £2,000. The defendants admitted 113*l.* 19*s.* 4*d.*, 8*l.* 14*s.* 2*d.* and 472*l.* 5*s.* 1*d*, making a total admission of 594*l.* 18*s.* 7*d.* They had put in a counter-claim for damages under the maintenance clause, by which the plaintiffs agreed to keep the wood-paving in order for twelve months, and also counter-claimed for some goods supplied for some 246*l.* odd. The plaintiffs had admitted on that item 237*l.* 10*s.* 5*d*, and taking that from the 594*l.* 18*s.* 7*d.*, there was an admission of 357*l.* 8*s.* 2*d* due to the plaintiffs. The balance of account for extras not certified remained for disposal. In answer to that, defendants pleaded the certificates given by Messrs. Holliday and May. The plaintiffs claimed, Mr. Cautley went on to explain, some 1,316*l.*, in rough figures, for work done under Section A, which had been omitted in the certificates. That was over and above what they had admitted in their pleadings. What was left in dispute was plaintiffs' claim for 1,316*l.*, and defendants' counter-claim for 586*l.* odd, and if his Lordship could see his way some time early next term to deal with this they would be very glad.

Mr. Justice Grantham : Why next term? I am here to-day to dispose of it.

Mr. Lush replied that this part of the action would take some time—a day or two.

The Judge : It will depend on technical evidence, I presume?

Mr. Lush replied in the affirmative, whereupon his Lordship thought that this part would have to be deferred.

Mr. Boxall said he thought it was agreed that it should be referred.

Mr. Lush said he had already stated that if he got the 14,000*l.* odd he would drop the rest of the claim, but not if he was threatened with appeals. He thought it best to discuss the question of the contract first.

Mr. Moulton, for defendants, once more called attention to the fact that he had never been heard upon the contract at all, and after some further argument carried his point, and proceeded to submit first of all that there was no ground for variation of the contract. In support of this he said the work to be done came under Section 174 of the Public Health Act, 1875, which provided that every contract exceeding 50*l.* in value entered into by an urban authority must be in writing and sealed with the common seal of the authority. Mr. Moulton went on to refer to the case of "Young and the Mayor of Leamington" (Court of Appeal), in which it was decided that this sealing of the contract was obligatory, and said he could not imagine anything stronger than that. He further quoted Lord Blackburn's judgment on this case when referred to the House of Lords, confirming the decision of the Court of Appeal and laying down that contracts over 50*l.* were positively required to be under seal.

Mr. Justice Grantham : No doubt that judgment was a very strong one, and if this case comes under it we cannot get out of it.

Mr. Moulton went on to say that this swept away the idea of an agreement between Mr. May and the plaintiffs, and declared that no agreement between Mr. May and the plaintiffs, no matter what the delegation, could have any effect at all. Either this work, he pursued, was done under the sealed contract, or it could not be recovered for. The consequence, he contended, was that his learned friend's suggestion that plaintiffs could have, by reason of prior negotiations, a rectification of a contract with an urban authority coming under Section 174 of the Public Health Act was quite wrong, and, in fact, impossible. Only what was under seal could bind the parties. Mr. Moulton further submitted as a point that would be vital, even between ordinary legal persons in law, that the plaintiff unquestionably knew the point as to what the specification and contract meant, and from that moment to the time when he was in the box he insisted that he meant the contract he signed and that there had been no mistake. He took the contract under seal from the defendants, and knew the contents of it. That being so, he sued on that contract, which was the one he meant to take, and he could not say he wanted that altered. He (counsel) did not think anybody could alter it. The plaintiffs could not, because they did not pretend not to have known the terms used, and they thought still that the interpretation of that contract was in their favour. A mistake in the interpretation of the contract was no ground for rectification, even between ordinary legal personages. Mr. Moulton proceeded to refer to the case of the Midland-Great-Western Railway of Ireland against Johnson and Kimber, House of Lords, to the effect that any correction if wanted must be under seal, and went on to point out that the plaintiff stood to this, that he signed what he meant to sign. His misunderstanding its meaning did not give him the right to alteration ; but he did not even say that. He said his construction was right, and there was no shadow of allegation that he thought the contents of the contract were different from what they were. Mr. Moulton went on to submit that plaintiffs' pleadings were bad in law, because there was no contract between Mr. May and the plaintiffs, and even if there were it would not be valid. They could not have rectification in the case of a man who said the contract contained what he wanted. No agreement as to the interpretation of the contract could alter the contract.

Proceeding to argue that the excavating, concreting and floating under the wood-paving formed part of the contract works and that the sum to be paid included the payment for all the works that had to be done under the contract, Mr. Moulton took the contract itself and asked if any human being could say that the Corporation of Brighton when they accepted a sum for doing this paving and making these tramways, meant that it should not include the excavation and making of the concrete bed on which the paving blocks rested? The contract meant all the work necessary for the construction of the wood-paved roads, and nobody would ask for a quotation for putting on the top of a house before the walls were constructed to put the top on.

His Lordship pointed out that contracts were often divided.

Mr. Moulton said the question was whether the work under the wood-blocks had to be done. Either it was to be done or the plaintiffs could not recover. If it was to be done it was for the price named. If it was not to be done they, the plaintiffs, had no contract. Mr. Moulton then went through the contract clause by clause, drawing attention to passages which, he submitted, showed it was perfectly clear that the contract meant making the wood-paved carriageways and tramways, and that all work necessary in doing this was included in the sum tendered. One important clause quoted ran, "And the contractor shall complete not less than 600 yards super per day, except Sunday, of the works in progress," which, Mr. Moulton submitted, clearly showed that plaintiffs were to do the excavation, concreting and floating. Another passage, "Everything whatsoever, labour, materials, &c., necessary for the full and complete execution of the works in accordance with this specification," Mr. Moulton submitted was extremely important, and that the word "works" meant the whole, including the excavating, concreting and floating. Everything turned on a certain figure being in a certain place. If instead of 12*s.* 7*d.*, 17*s.* 9*d.* had been put down, there would not have been a single word said or a shadow of doubt as to the meaning of the specification.

In construing the contract, Mr. Moulton continued, they should not let themselves be affected by the actual price appearing, because the price at which plaintiffs offered to do the work could not qualify the thing to be done He submitted that the contract price was for doing the whole of the work described in the specification, and that the work described in the specification included the excavating, concreting and floating Under these circumstances he submitted that the contract required that work to be done, and if it was to be done what contract was there for paying for it except the contract in question and for the sum named? He contended that when they looked at the contract there was no doubt that the plaintiffs must do the excavating, concreting and floating. However the contract was construed, he claimed that it bound both parties. There were, Mr. Moulton added, many other points which he might raise, but that was his main argument.

Mr. Justice Grantham : I think you have put it very clearly, and therefore I think I would now like to hear Mr. Lush.

Mr. Lush said that he had three main points to submit. The first was as to what the contract meant as it was drawn. The second point would not arise if his view of the construction of the contract was right. It was this—if it was wrong the plaintiffs were entitled to have the contract rectified. The third point, which he did not think he should want to raise, was that inasmuch as the Corporation had paid 9,000*l.* odd for this work, they could not, at all events, get that money back. Proceeding to argue the construction of the contract, Mr. Lush said it was important to bear in mind the jury's finding that it was impossible and impracticable to estimate for the cost of making the concrete bed in Section B, and he also submitted that when they came to look at all the documents and make them fit, there was only one conclusion possible, and that was that the plaintiffs were to be paid for making the concrete bed in accordance with the prices in the schedule of prices, and he further submitted that the fallacy of the Corporation's submission was that they persisted in calling the tender a lump-sum, tender for Section B. He contended that the lump-sum price in the tender was only for providing the wood and laying it. The tenders were invited for the work in the original specification and the bills of quantities, which meant the bills of quantities for both sections, and it was of the utmost importance to observe that wood-paving was defined in the specification as meaning only the supplying and laying of the wood. The works included in the specification under Section B included laying the ducts for the electric light, and if the Corporation's contention was right this meant that the plaintiffs were to do this work in the lump sum of 101,000*l* Mr. Lush went on to urge that clause 24 of the contract did not say what the work amounted to on the contract—it was the tender that said that ; and it was clear, he proceeded to argue, from the Corporation's own description that what the excavation was to be was left at large, because it was stated that the depth was to be "not less" than 15 inches. It might be that they would have to go 50 inches deep.

Mr. Justice Grantham : I must say that it seems to me the natural meaning is that as far as the contract says he is to bind himself to excavate to 15 inches depth and anything beyond that depth he would be paid for.

Mr. Lush went on to say that it was very important to observe that the term "wood-paving" was used in another place in contradistinction to making the concrete bed, and another clause that described what was to be done in wood-paving did not say anything about the concrete bed. He went on to submit that the crux of the case was clause 103, and remarked that how Mr. Moulton could get out of this he failed to see. This clause provided that "the whole of the work will be measured up while in progress or on its completion, and the amount of work actually executed will be paid for according to the prices affixed to each description of work in the schedule of quantities in the form of tender, and the difference between the amount actually executed and the amount given in the schedule of quantities will be added to or deducted from the lump sum item." According to this, Mr. Lush went on, the deductions to be made if the plaintiffs did not do the work must correspond with what they were to have if they did do the work ; yet the defendants would deduct 18*s.* for what plaintiffs did not do, although they only paid 12*s.* 7*d.* for what plaintiffs did do. The deductions, he contended, must correspond with the payments, otherwise it made nonsense of the contract. If the schedule of prices applied to Section B at all they had this fact, that the work they had done was to be measured up in order to see what the Corporation should pay for each class of work. It would not have to be measured up if the Corporation's view was right. There would be nothing to measure except the whole superficial area of the work done. Why tell the engineer to measure up the excavation for 2 or 3 miles when it was no good and plaintiffs were not to be paid for it? In the schedule of prices there was no figure for 15 inches, and *à fortiori* there was no figure for beyond 15 inches Unless the plaintiffs were to be paid for all the excavation it was a senseless function this measuring up of all the work. Proceeding to argue what the plaintiffs contracted to do for the lump sum, Mr. Lush again referred to the passage where wood-paving was defined to mean only placing the wood in its bed, and also to the clause which was actually used in contradistinction to making the concrete bed, with a view to showing that this was all the contract meant the plaintiffs to do in the matter of wood-paving. Further, he pointed out that in the schedule of prices there was not one syllable that asked them to tender for anything beyond laying the wood It was manifest, he urged, that the defendants acted upon the view which the jury found was right, viz. that they could not ask the plaintiffs to give a price for the concrete bed, as this was impracticable. They had asked the plaintiffs to name a price for laying the wood, and the plaintiffs were told that all the work they did should be measured up, and they would be paid according to the schedule of prices. There was nothing in the contract from which the defendants could extract even the notion that the plaintiffs were to lay the concrete bed for nothing. After going through the whole of the contract, Mr. Lush submitted that there was not one syllable in it that would suggest that the plaintiffs' price, which was simply made up of so many twelve and sevenpences, included the making of the concrete bed, and he further submitted that there was not only no foundation to the defendants' argument, but that it made nonsense of the whole thing. He therefore contended that the plaintiffs were entitled to be paid on the measurements. Coming to the question of the rectification of the contract, Mr. Lush said they had this on the findings of the jury. In the form of tender originally before the works committee it was first intended that there should be two prices, wood plus concrete bed, but it was ultimately decided to have wood alone, and that last form of tender was the one sent in by the plaintiffs, and the price quoted was only for the wood. It was manifest from this document that the gentleman who drew up the contract was instructed to draw it up for the purpose of only getting a price for the wood under Section B. Those who framed the contract only intended it to mean the price for the wood, and that the plaintiffs should be referred to the schedule of prices for making the concrete bed. In preparing these documents the gentleman who drew them up, acting on the instructions that were never withdrawn, intended to put into the contract a record of this agreement that 12*s.* 7*d* should only apply to the wood, and that the rest should be paid for according to the schedule of prices and bills of quantities. In the draft as originally drawn it said the price for providing and laying the wood should be 12*s.* 7*d.* He thought that was conclusive. How could those who drafted the contract, who said in terms in that contract that the price was for providing and laying the wood, say it was for making the concrete bed, which was not mentioned in the contract at all? It was evident that they meant that the contract meant what it said, namely, providing and laying the wood. The tender sent in was confined to the wood, the contract sent in was confined to the wood, and it was accepted by the works committee confined to the wood, and it was the view of the members of the works committee that the 12*s.* 7*d.* was confined to the wood. He put it that in whatever form of words this was put the real agreement between the parties, according to the intention of both, was that 12*s.* 7*d.* should only cover the wood. Assuming that it was found that the contract did not mean what he said, it meant, he submitted, that by a mutual misunderstanding the words used did not record the real agreement, and that the parties meant one thing and another thing was inadvertently put into the contract. This, he submitted, formed the grounds for rectification of the contract, and the burden of Mr. Moulton's remarks about the seal of the Corporation had absolutely nothing to do with what he (Mr Lush) urged in favour of rectification.

Replying to his Lordship as to the way he would rectify the contract, Mr. Lush said he would add words to the effect that the excavating, concreting and floating were to be taken separately and to be paid for according to the schedule of prices. Mr. Lush, in reply to the case of the Midland-Great-Western Railway of Ireland, quoted by Mr. Moulton, quoted the case of Johnson against Bragge, and, in conclusion, said that if the Court was against him on his first two points he would subsequently raise the third point relative to the repayments.

Mr. Moulton briefly replied to Mr. Lush, declaring that the schedule of quantities was as wide apart as the poles from the schedule of prices, and that there was not a single quantity in the schedule of prices, while the essence of the schedule of quantities was that it gave the quantities.

Mr. Justice Grantham intimated that he would take a little time to go through the arguments, and would, therefore, reserve judgment.

THE LATE W. ALEXANDER.

THE death is announced of Mr. William Alexander, city architect, Dundee, which took place last week, after a fortnight's illness, culminating in a severe surgical operation. Deceased, who was the son of Mr. Charles Alexander, was transferred from Dundee High School to an architect's office in Dundee, and afterwards to Edinburgh. Returning to Dundee, Mr. Alexander in 1871 was appointed town architect—Dundee being then lacking the status of "city"—in succession to the late Mr. William Scott. During his long tenure of office Mr Alexander naturally designed many of the most important buildings in the city. He was architect of the Victoria Art Galleries, the hospital of the East Poorhouse, the Parish Council offices, the consumptive sanatorium, the Carnegie Branch Library, and many other buildings of a less pretentious character. His success in private practice was equally marked. He designed Her Majesty's Theatre, Dundee, and the Perth Theatre, and was engaged when the

Victoria Halls were metamorphosed into the Gaiety Theatre. As a valuator also his advice was asked in many important transactions. Mr. Alexander was one of the first to join the Dundee Rifle Volunteers, and was present at the great review by Queen Victoria at Edinburgh in 1860. He was a member of St. Mary's parish church, and is survived by a widow and a family of one son and six daughters.

ECCLESIASTICAL DILAPIDATIONS.

IN his charge at Chichester on Monday Archdeacon Elwes referred to ecclesiastical dilapidations. He said:—The question of dilapidations is one which is often presented to the clergy in a practical and not always in a pleasing form. There is general agreement upon the point that "something must be done," and undoubtedly some of the schemes for the mitigation of the difficulty are not without a bold and drastic tendency. It is proposed, and the plan is advanced under very influential names, that all the lands and houses belonging to the Church shall be vested in the Ecclesiastical Commission, and shall become their property in trust for the benefit of the several benefices to which they have hitherto belonged. If that were done, the glebe houses would cease to be the property of the incumbents. The incumbents would pay an annual sum to the Ecclesiastical Commission, in return for which all repairs would be carried out by the Ecclesiastical Commission. Of course, after a time these payments would be presumably sufficient to provide all the costs of repairs, but for some years that would not be the case, and it is calculated that a capital sum of about 100,000*l.*, or the annual interest upon such a sum, should be provided in order to meet the demands upon the Ecclesiastical Commission during the early years of the new system. It is proposed that this annual sum shall be found by the amalgamation of the managements of the Queen Anne's Bounty and the Ecclesiastical Commission, *i.e.* by the economy in the cost of management which this fusion of offices would effect. This plan is advocated by persons of such weighty authority that everyone must feel bound to look upon it with much respect. Yet the objections to the scheme are sufficiently important to deserve mention. In the first place, it may be thought something less than prudent to combine the funds of the Queen Anne's Bounty and of the Ecclesiastical Commission. The proverb which tells us in homely language not to carry all our eggs in one basket seems to be applicable here. And as regards the practical working of the scheme, I am doubtful whether the country clergy are prepared to give over the ownership of the glebe houses into the hands of others. With glebe lands and with the buildings attached to them the case is not quite the same; and it might be different with the houses of the town clergy, especially if an agent of the Ecclesiastical Commission were resident in the same town. But I should hesitate to say that the country clergy are willing to give up the present tenure of their houses, which often gives a charm to a position which otherwise does not offer many attractions from a worldly point of view. In fact, briefly, the plan before us proposes to make a serious inroad upon the Parson's Freehold, and though I am not over tenacious of the Parson's Freehold, yet I am not prepared to see it taken away by a side wind and without any equivalent being given in exchange for it as such. Would it not be a sufficient remedy for our present ills if quinquennial surveys were made obligatory upon all benefices, and if the diocesan surveyor were paid, as he then could be, by a fixed stipend? Such a system would prevent Church property from falling into serious disrepair and would enable the surveyor to postpone certain renewals which might be allowed to stand over if the date of the next survey was assured. I believe that, if such a plan were followed, it would be comparatively easy after a time to calculate the cost of the quinquennial repairs, and thus the clergy would be encouraged to put by year by year in the Post Office Savings Bank or in the Ecclesiastical Insurance Office the amount that would be required for that purpose.

Correspondence

[*The Editor does not hold himself responsible for opinions expressed by the writers.*]

Colls v. Home and Colonial Stores.

SIR,—I was glad to see that last week one of your readers declared his desire to contribute to a testimonial to the protagonist in the great case Colls *v.* Home and Colonial Stores. Many others (including myself) would to my knowledge do so willingly. But as the pseudo grand lady said in the *Vicar of Wakefield*, "There is a form in these things—there is a form!" It is not considered advisable for an ordinary practitioner to come forward as if he desired to gain prominence in connection with this subject. The initiatory steps would come with more fitness from an architect holding an official position, such as the President of the Institute. A still better arrangement would be for the presidents of the various societies in the Metropolis and the provinces to make arrangements for the purpose. The President of the Devon and Exeter Architectural Society (to whom I owe some allegiance) has not hesitated, I am glad to say, to express publicly his gratification at the judgment, and he deserves the credit for being the first to express professional opinion on the subject. If other presidents would be equally courageous, the testimonial would soon assume a form worthy of the profession.—Yours truly,

A WEST COUNTRY ARCHITECT.

GENERAL.

In a Limited Competition for the extensions and alterations to the Northern Counties Deaf and Dumb Institution, Newcastle-on-Tyne, the committee unanimously selected the design of Mr. Stephen Piper, architect, 4 Ridley Place, Newcastle. The proposed outlay is about 8,000*l.*

Mr. Harry B. Measures, architect to the Rowton Houses, Ltd., and other important undertakings, has been appointed Director of Barrack Construction by the War Office. The salary will be 1,500*l.* a year.

The Local Government Board have appointed Mr. James Green (Messrs. Weatherall & Green) to make the initial valuation in connection with the Hampstead Road improvement charge.

West Malling Church was visited by the Bishop of Dover last Saturday for the purpose of dedicating a newly-erected porch and fresh seating. The money was derived from the sale at Christie's for over 1,100 guineas of the old Elizabethan stoup discovered in the parish church.

Mr. Edwin Jones, of Chislehurst, and of the firm of Messrs Bayliss, Jones & Bayliss, Ltd., Wolverhampton, iron manufacturers, engineers and contractors, who died on February 18 last, left estate valued at 227,707*l.* gross, with net personalty sworn at 215,156*l.*

The Auctioneers' Institute's gold medal and the "Hepper" first prize have been awarded to Mr. B. A. Boyton, the second prize and an honours certificate to Mr. G. P. Insley. The silver medal and the "Hepper" prize have been awarded to Mr R. W. Davies in the intermediate division. In the preliminary division the bronze medal and the "Hepper" prize have been awarded to Mr. W. E. Hughes.

The London County Council have appropriated the London Street site to the purpose of enabling them to discharge housing obligations in respect to the Rotherhithe Tunnel The value of the site is fixed at nil, and an estimated excess of 6,535*l* in the cost of erection of the dwellings will be charged to the account of the improvement.

Mr. Andrew Murray, the surveyor to the Corporation of London, will voluntarily retire on a pension, having reached the limit of age. Mr. Murray entered the City service in 1854 as a junior clerk. He succeeded the late Mr A Peebles in 1891 as City surveyor. Mr. Murray has taken part in many important architectural and building projects, especially those connected with the Corporation's markets and the bridges.

Mr. Daniel Watney, the arbitrator, has fixed 14,718*l.* as the sum to be paid by the London, Brighton and South Coast Railway Company to the Tandem Smelting Syndicate for 3 a. 2 r. 26 p. of land near New Cross taken under compulsory powers. The sum claimed was 23,838*l.*

The King and Queen visited on Saturday last the summer exhibition of the Royal Society of Painters in Water-Colours, this being the centenary year of the Society. Their Majesties were received by Sir Ernest Waterlow, R.A. (president), Sir Laurence Alma-Tadema, R.A, and the members of the Council.

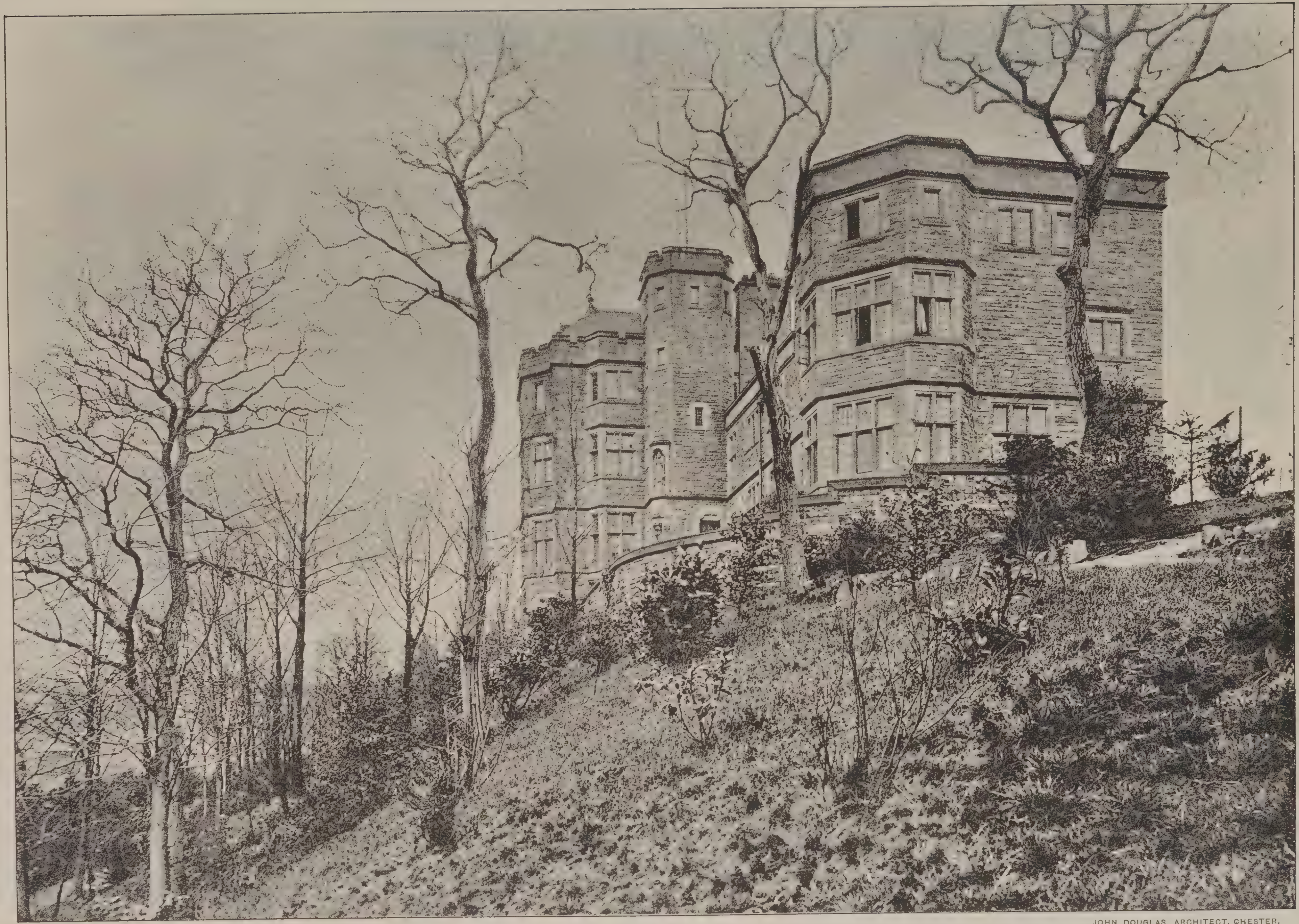
Hans Grisebach, who was one of the busiest of the Berlin architects, died on the 11th inst. A large number of the residences in and around Berlin were designed by him, as well as some successful commercial buildings. He was the brother of Edouard Grisebach, the poet.

Captain Carmichael, R.E., now of the Ordnance Survey Department, has been appointed head of the Engineering and Works Department under the Crown Agents for the Colonies.

The Soane Museum reopened on Monday last after being closed on account of the death of the curator, Mr. G. H. Birch, F.S.A.

Dr. Charles Waldstein will give a course of four lectures on "The Great Sculptors of Ancient Greece" (Phidias, Scopas, Praxiteles and Lysippus) at the University of London, South Kensington, on Friday afternoons, beginning May 20.

Mr. Erskine Nicol, A.R.A., has left property to the value of 33,826*l.* 18*s.* 7*d.*



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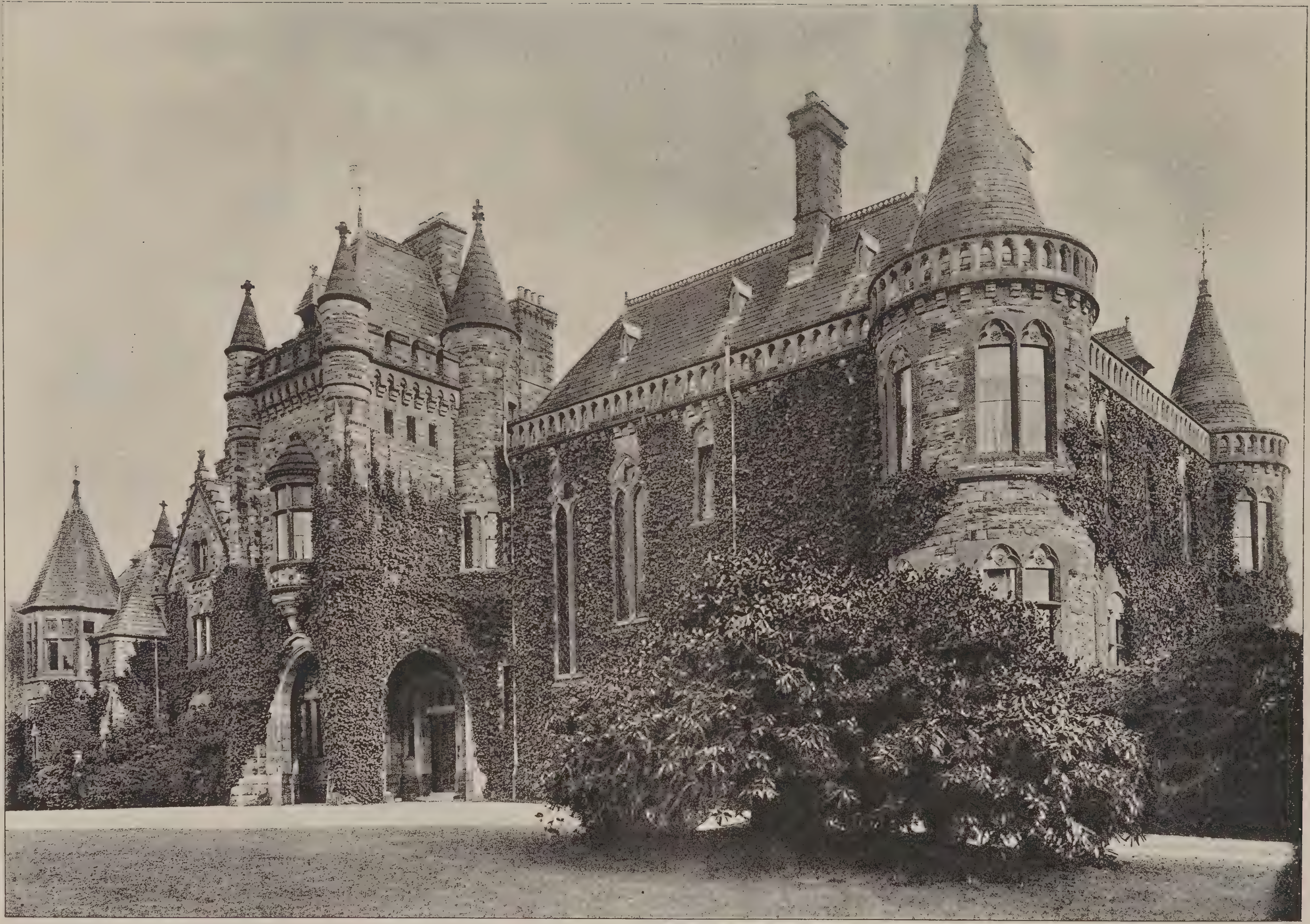

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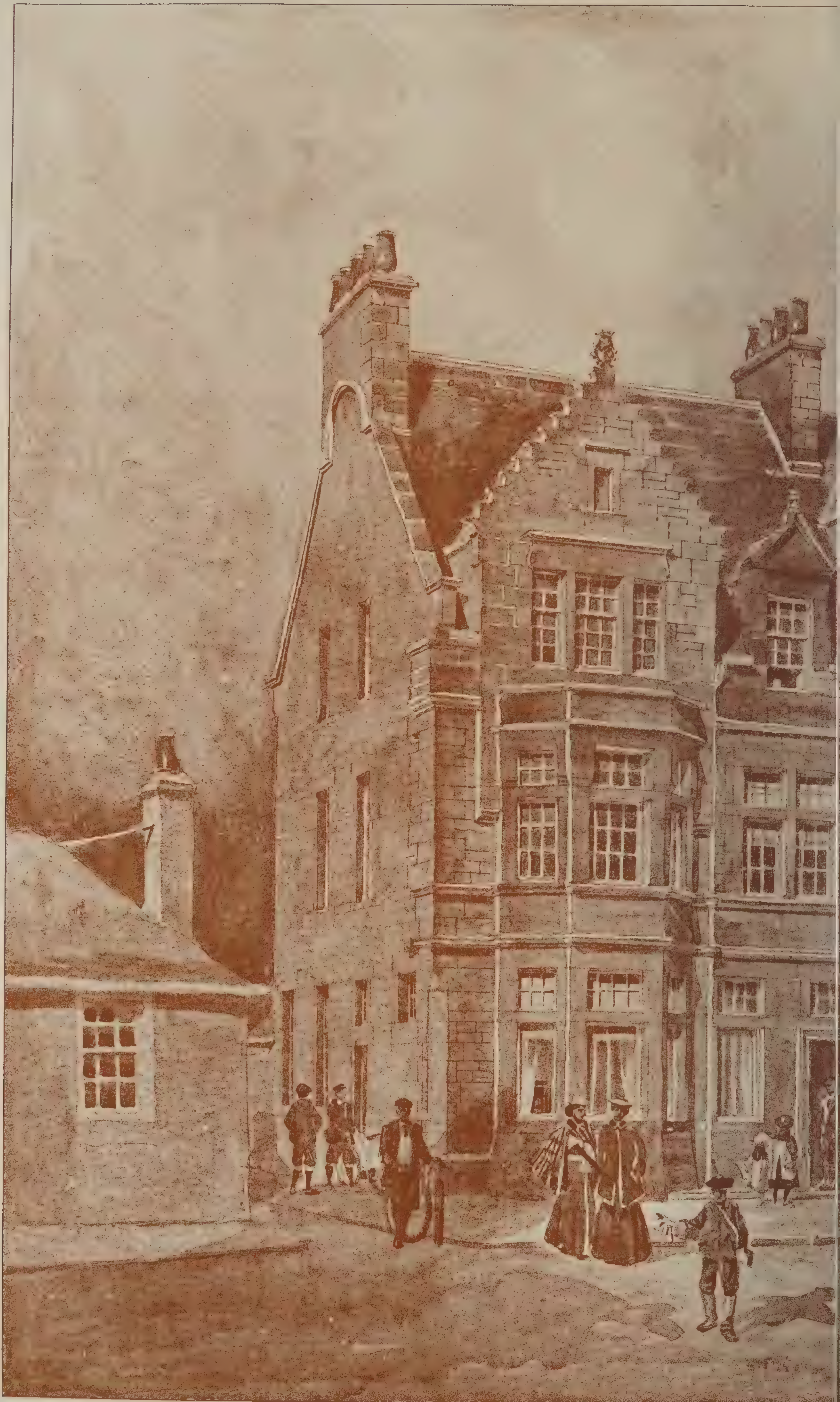

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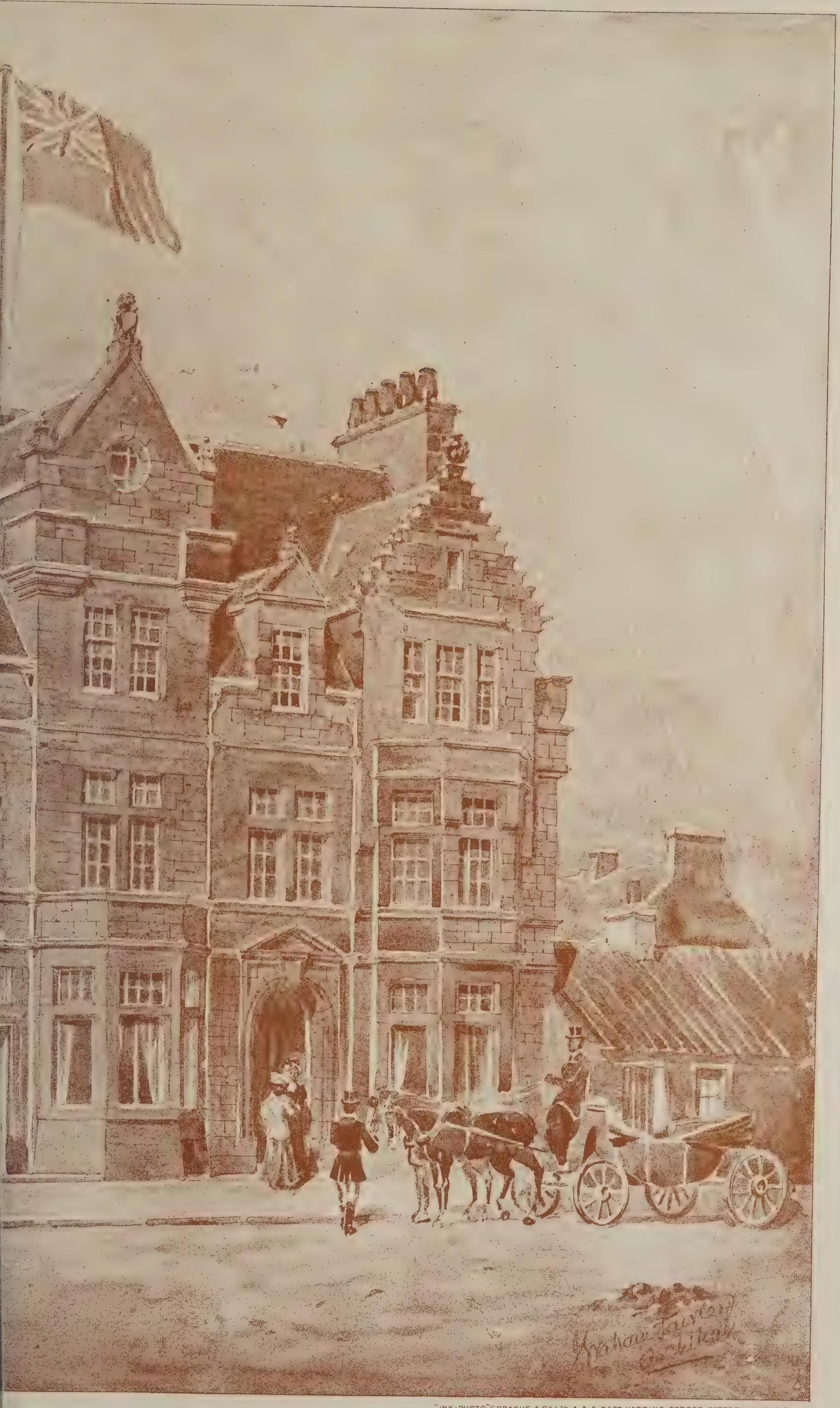

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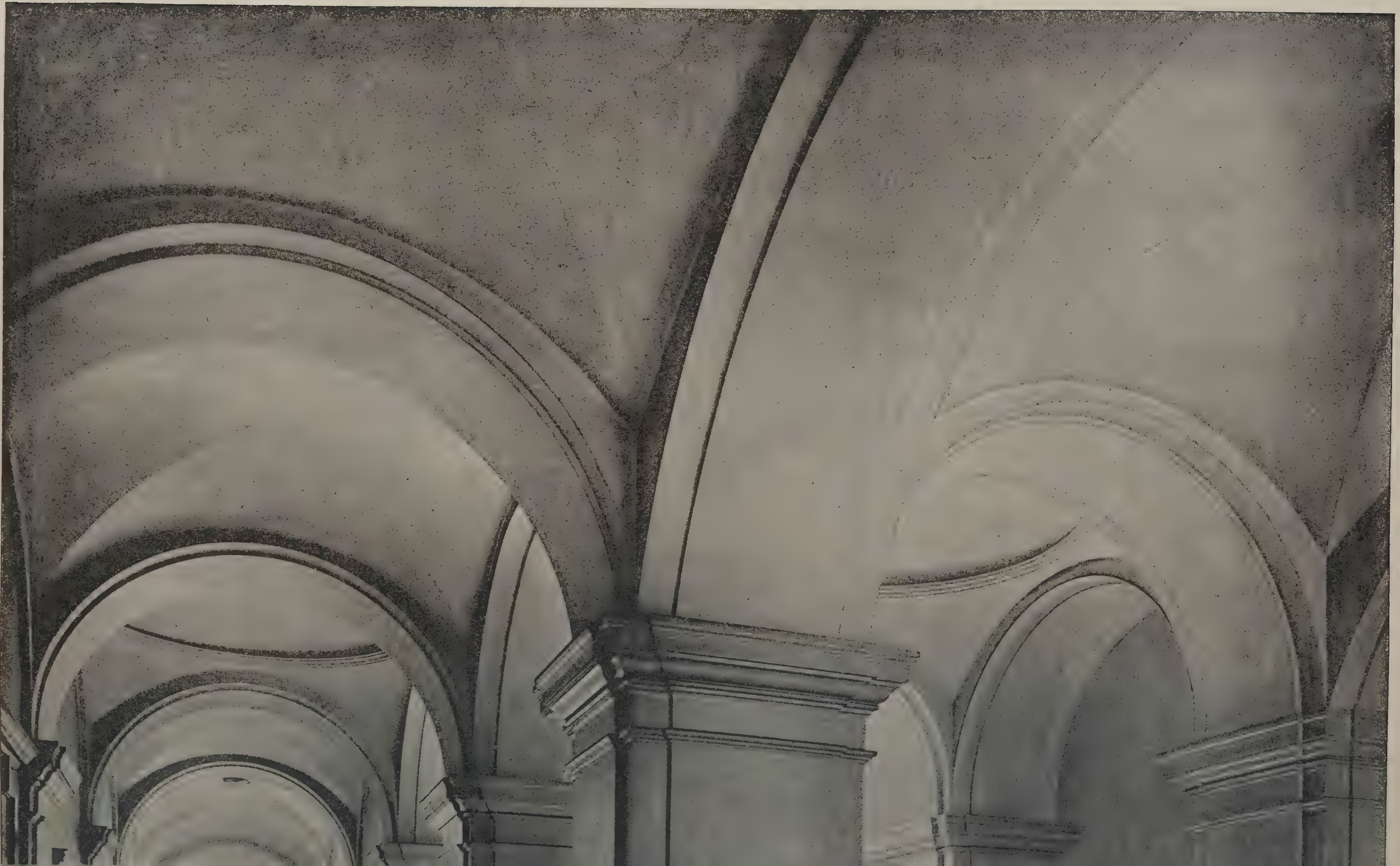
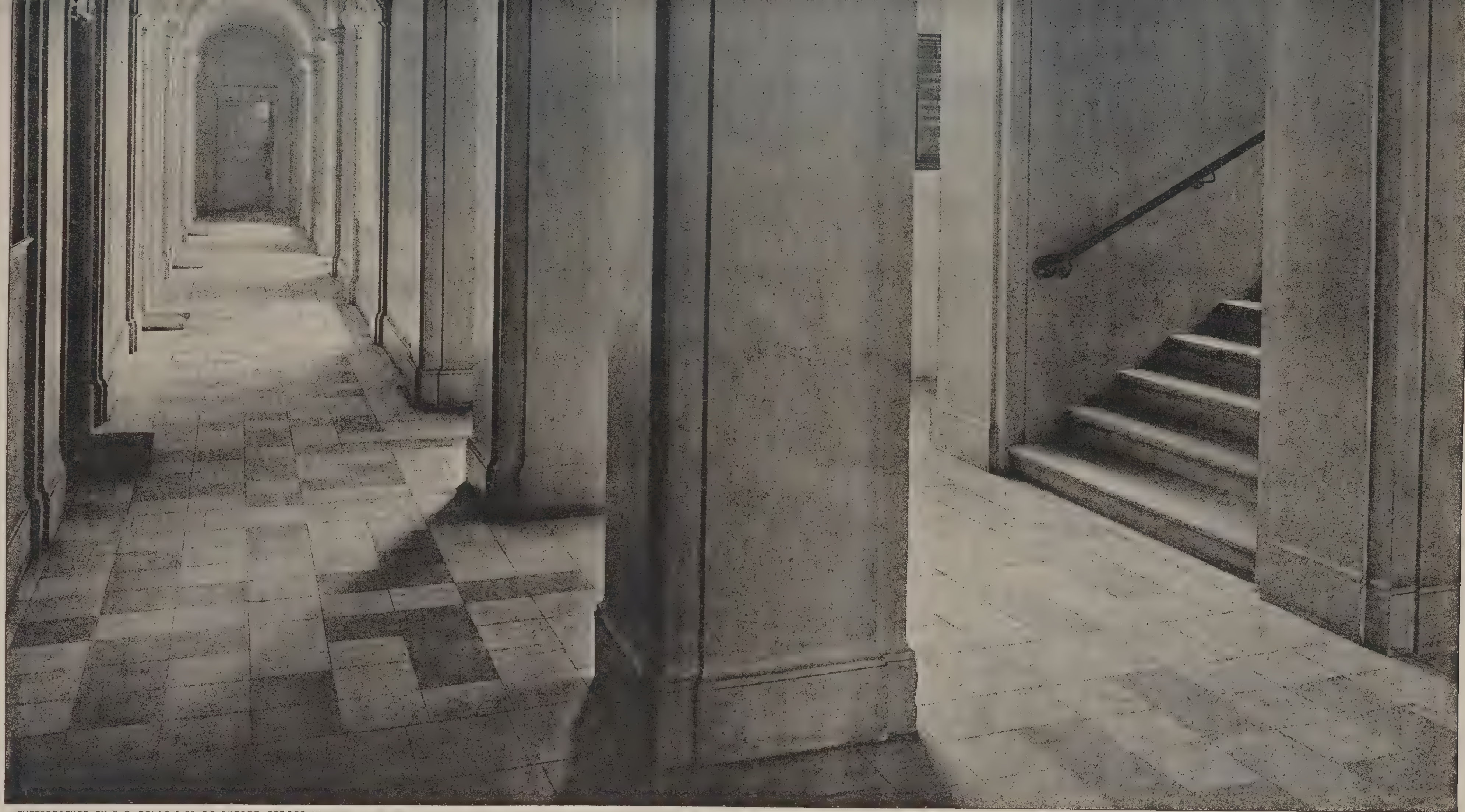
EL, BATHGATE.

Y, Architect.

The Architect. May 20th 1904.





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ELECTRA HOUSE, FINSBURY, E.C.: SECOND FLOOR LANDING.

J. BELCHER, A.R.A., Architect.

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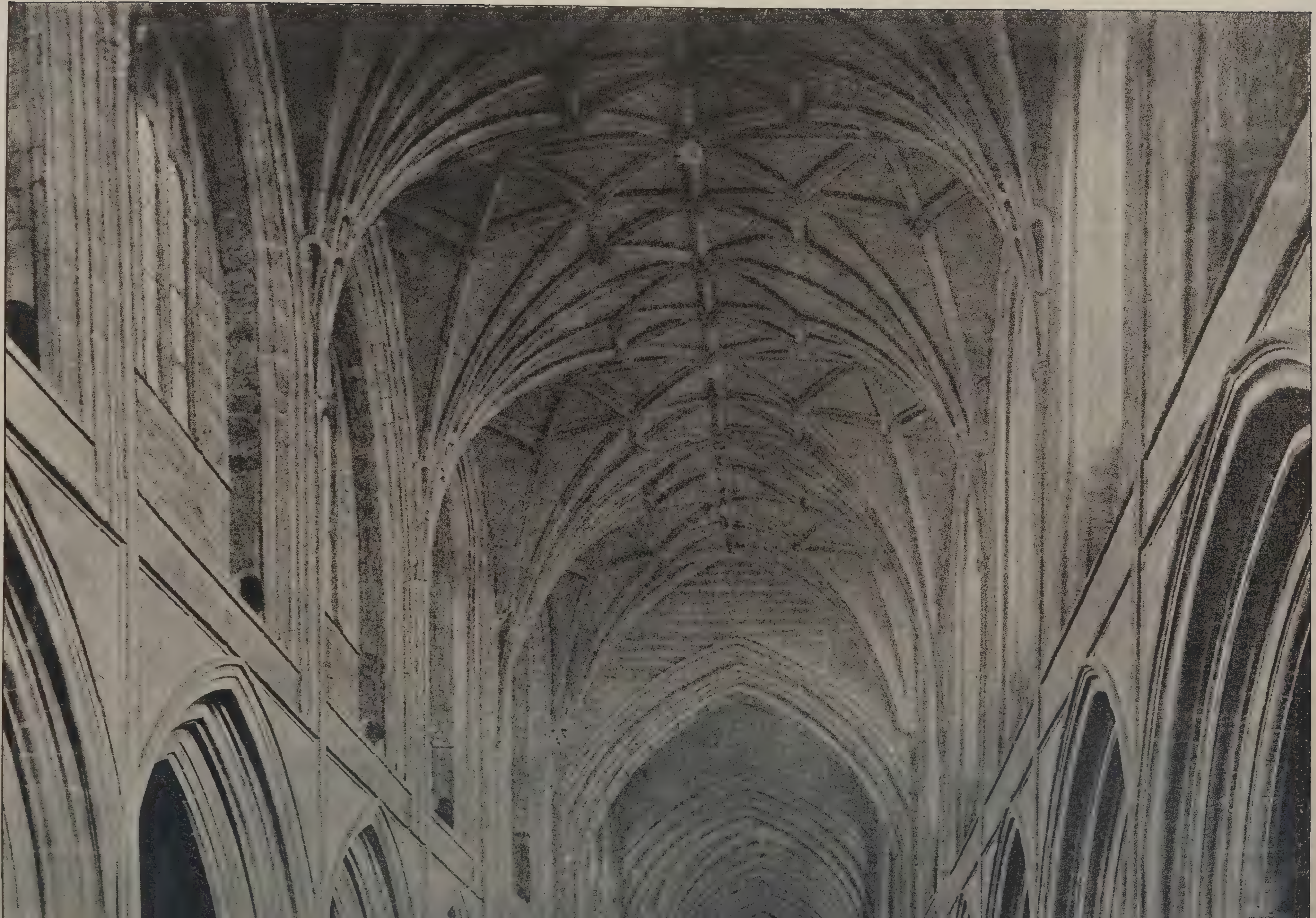

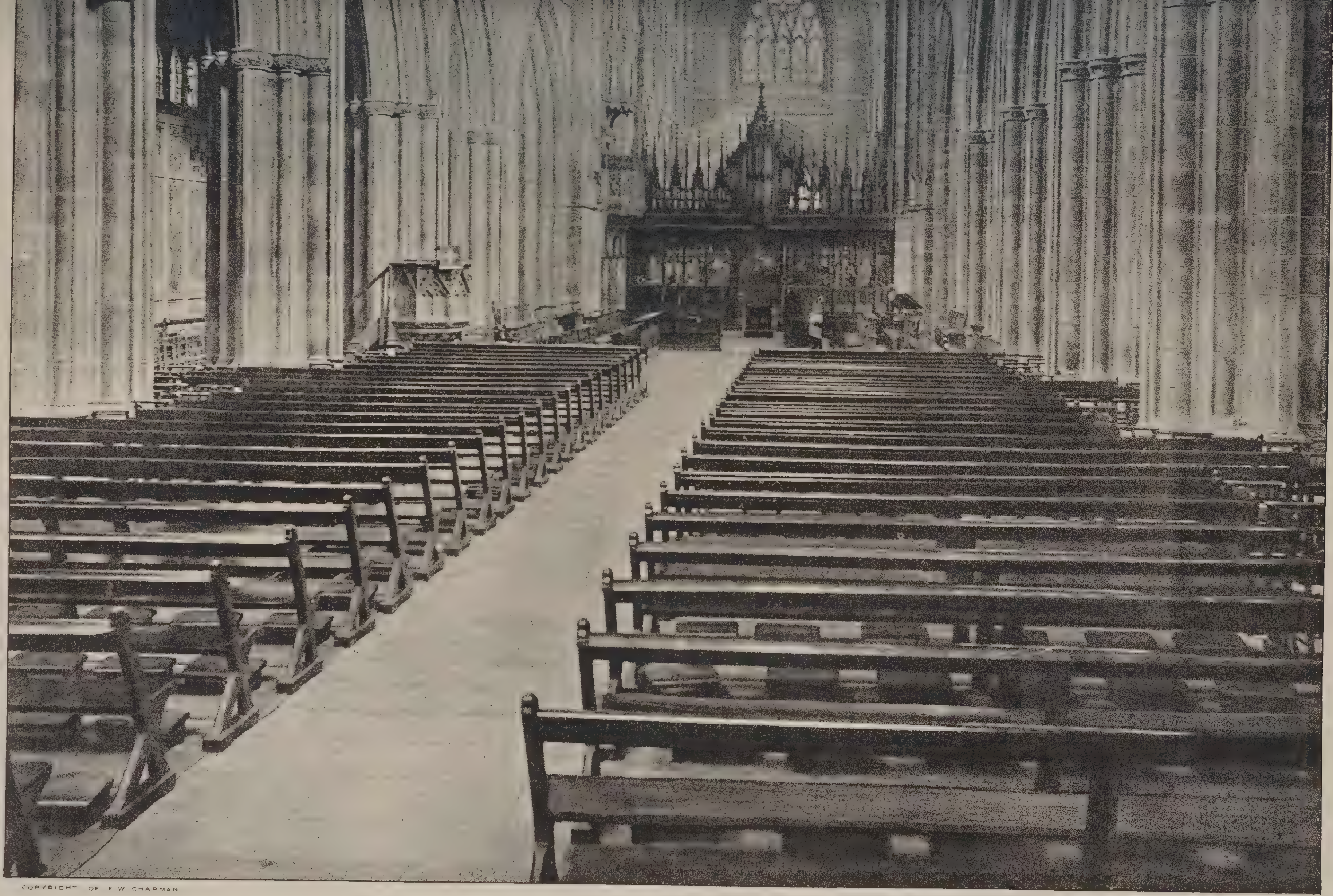

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Cathedral Series, No. 491.—Chester: General View of the Nave.

The Architect.

THE WEEK.

In the report of the Council of the City and Guilds of London Institute it is announced that Professor Unwin has notified his desire to resign his Professorship at the close of the session, on the ground that the daily pressure of work had latterly taxed his strength, and also that he had reached the age fixed by the Senate of the University of London, under whom he has latterly held the appointment, for university teachers to retire, although this regulation would not strictly apply to him as a "transferred teacher." Professor Unwin was appointed to the professorship of Civil and Mechanical Engineering by the Institute on the opening of the college in 1884, and the Council desire to place on record their appreciation of the devotion with which he has concentrated the best of his efforts in organising and developing from beginning to end a systematic course of college training adapted to the requirements of students desiring to become professional engineers, and of the success with which those efforts have been attended. The Council also desire to record their appreciation of his services as Dean of the college, during his first tenure of that office from the opening of the college in 1884 to Midsummer, 1895, and during the last two sessions. It is to be hoped that the approaching leisure which Professor Unwin has so well earned will enable him to give those engaged in construction the benefit of his experience. His work on "The Testing of Materials of Construction" was at once recognised as a standard authority. He has, moreover, treated of other branches of engineering. Previous to his engagement at the Central Technical College, Professor Unwin acted as instructor at the Royal School of Naval Architecture and Marine Engineering, and afterwards as Professor of Hydraulic Engineering at Coopers Hill.

If a contemplated undertaking will clearly and inevitably cause serious damage to the public in general, or to the inhabitants of a particular district, the carrying-out of such an undertaking can be restrained by an injunction. In the case of the Attorney-General *v.* Nottingham Corporation an attempt was made to stop the user of a smallpox hospital, which the Corporation of Nottingham had recently erected in the parish of Bulwell within the borough of Nottingham, upon the ground that the hospital was so situated that its user was dangerous to persons living or passing by the hospital. The hospital was securely fenced on all sides except one, which was bounded by a river 20 feet wide, the bank of which was 15 to 20 feet high. The building was 51 feet from the high road; the nearest house was 48 yards distant. There were 204 residents and 230 men employed on some ironworks within a quarter-mile radius, and 510 residents and 1,280 men employed in a colliery within a half-mile radius. There was a conflict of expert evidence, some witnesses holding that all smallpox hospitals are necessarily a danger to all persons living within a radius of 51 feet, others holding that this is not the case. Farwell, J, held that, the experts being thus divided in opinion, the plaintiffs had not proved such inevitable damage to the public or to the inhabitants of the district as would justify the issue of an injunction. If a public nuisance is proved to exist at any given place, it is no answer to those complaining of the nuisance to say that on the whole the existence of the nuisance benefits the public at large. But if the question to be determined is whether or not a nuisance does in fact exist, all the circumstances must be taken into consideration, and it may well be that the maintenance of such a hospital is more beneficial to the neighbourhood than the absence of all provision for the proper isolation of cases of smallpox which would necessarily result from treating all patients in their own homes. As the learned Judge said, it is practically impossible to stamp out smallpox under the existing law, and it is practically impossible to isolate cases in crowded areas. Until our legislators see fit to make it compulsory upon all to take the obvious precautions necessary to stamp out this disease, it is to be hoped that due weight will be given to these considerations. It is to be hoped that this decision will not be reversed upon disputable grounds which would result in closing the majority of smallpox hospitals in the kingdom. The fact that public policy is not always apparent in Acts of Parliament is sometimes a sufficient reason for insisting upon a proper regard for it in the decisions of the Courts. "After all," said Farwell, J., "the owners and occupiers of adjacent lands have a far more effective prophylactic provided for them by medical science than any injunction of the Court." If a smallpox hospital is as dangerous as the plaintiffs in this action contend, it is clear that the Legislature should make such a prophylactic compulsory—a proposition which is, perhaps, a truism to those who are sane.

A view of St. Mark's can generally be made attractive by the introduction of crowds of pigeons about the Piazza. It is supposed they increase the oriental aspect of the buildings. For many centuries they have been privileged inhabitants. At one time they were fed at the expense of the Senate, and legends were invented to account for their presence. What Londoners admire in Venice they decline to tolerate in their own city. Pigeons are declared to be a public nuisance, for they are alleged not only to make buildings filthy, but in hot weather they help to pollute the atmosphere. Dr. Collingridge, the medical officer of health, in his last annual report says:—"Of course, on sentimental grounds no one would venture to suggest the banishment of these birds from the City, but the time has arrived when it is necessary that their numbers should be lessened, the evil having been aggravated in later years in consequence of the demolition of City churches, and there is now hardly a building of any importance where pigeons do not congregate." There is, however, some difficulty in dealing with the pigeons. They are without actual owners, and it is not easy to serve summonses on the birds to appear at the Mansion House court. People have, however, taken the law into their own hands, as temporarily there is no likelihood of prosecution. The numbers of the pigeons are diminished. But for the sake of sanitation it would be advantageous if they became still fewer.

The history of the relations between Madame De Warens and Rousseau is not edifying, especially if judged by an English standard of ethics. But the country house in which they lived and quarrelled will always be attractive to those who are admirers of Rousseau. The self-torturing sophist, the apostle of affliction as Byron called him, found in Les Charmettes a refuge, but it cannot be said he was grateful for the kindness he received in it. It is strange that a rather commonplace house should be supposed to confer interest on a region which nature has made delightful, but the people of Chambéry believe they will suffer if Les Charmettes should be adapted to modern needs, and have therefore proposed to purchase the property. There is a Rousseau Museum in Geneva. Why, it is asked, cannot there be a second in the house which holds so prominent a place in his "Confessions"? The price demanded for the property is 50,000 francs, and all that Chambéry can contribute is 20,000 francs. It is proposed to ask the Government to interfere, and to make Les Charmettes one of the historic buildings. But it is doubtful whether any money would be granted for the purchase. Admirers of Rousseau are to be found in many parts of the world, and it is supposed they would forget his frailties and contribute towards the acquirement of the house in which for a time he was a favoured guest.

About one hundred members of the British Association of Waterworks Engineers will visit some of the Belgian waterworks next month. The annual meeting is to be held in Hull on June 9, 10 and 11, at which several papers will be read. A train will leave Hull on the 11th for Harwich, and on the 12th Antwerp will be reached. The Hydraulic Pressure Supply Works, the Antwerp Waterworks at Waelham, with some of the public buildings, will be visited on Monday. Afterwards they will proceed to Brussels. On Tuesday the waterworks at the Bois de la Cambre will be examined. On the following day there will be a visit to the Bocq Valley works. Some members will return to England viâ Antwerp on June 15, while others will visit Dinant, Aubrive, the Gileppe Dam, Verviers, &c.

THE BRIGHTON WOOD-PAVING CASE.

After the arguments of counsel in the action brought by Messrs. Macartney, McElroy & Co., Ltd., against the Brighton Corporation, which we were enabled to present on the 20th inst., it was stated that on account of the number of legal points to be considered Mr. Justice Grantham had resolved to allow some time to elapse before delivering judgment. His Lordship was able to give his decision on Friday last. The special jury, it will be remembered, had found a verdict for the plaintiffs, and his Lordship endorsed that conclusion, saying they were entitled to 14,000*l*., subject to the amount being rectified on a reference, if the parties could not agree on the sum to be accepted and paid.

The case is one of those which are better adapted for arbitration by experts than for investigation before a jury in a public court. The whole dispute turned on the description of the work to be undertaken, which was to be found in a specification, and on the correspondence between quantities, plans and other documents. We might even say the question at issue was no more than whether it was intended that the extent of certain work on the streets of Brighton was to be determined by superficial or by cubic measurement. And yet, owing to the poverty of the English language in technical terms and the endeavour to obtain substitutes for them in the amazing redundancy of ordinary words which the language supplies, the briefs for counsel, which set forth the circumstances, contained hundredweights of paper; and, as the Judge remarked, besides the enormous costs already incurred, the case may yet yield a further harvest for lawyers if it should be brought to higher courts and the House of Lords.

No less extraordinary is the character of the litigants. The Mayor of Brighton, who theoretically was the principal defendant, was described by the Judge as "a well-known and highly popular local solicitor, who is much in request as a solicitor and advocate in all parts of the county." It was not to be expected that a carelessly drawn document would arise during his reign. The Town Clerk had been "a most efficient servant of the Corporation for many years," and he was aided by a very able deputy. Mr. May, the borough engineer, stands among the most prominent members of his class in Great Britain. At all meetings of municipal officers his authority is respected. On such occasions experience counts, and Mr. May's record is indisputable. He has borne for several years the responsibility for conducting works successfully not only in Brighton, but in other places. In the contract out of which the action arose he was not as usual solely responsible, for while Mr. May looked after the wood-paving, a specialist was engaged to attend to the laying of the tramways. Everything, in fact, pointed to the possibility of completing the works without the least friction.

There was another phase of the case which was unusual, but which showed a desire for the strictest equity. When tenders are received in which errors are apparent there is usually no compunction in leaving the intending contractor to his fate. *Homo homini lupus* expresses the situation, and if a contractor blunders he must pay the penalty. But at Brighton one of the plaintiffs was asked by Mr. May whether he had not erroneously read the specifications, and was advised by him to go into the figures again and to take time before he accepted the contract. Not only was caution recommended; Mr. May went so far as to give his own interpretation of the signification of the words of the specification, and yet the contractors adhered to their view. The difference between the two was not trivial. On one side it was believed that the amount of the tender should include the excavation, concreting and other work besides the wood-paving; on the other the tender was supposed to refer to wood-paving only. That difference, however, when expressed in figures, was whether the Brighton Corporation should pay 14,625*l*. 9*s*. 1*d*. to the plaintiffs, or whether work of that value had to be executed without further payment.

The documents in question would bear more than one interpretation. According to Mr. Justice Grantham the specification, if regarded by itself, indicates that the person tendering for the work in laying the wood-paving was to include the cost of excavating and of finding concrete and cement to make the foundations for the wood-paving. In the form of tender it was, as his Lordship pointed out, no less clear that the amount only referred to the cost of supplying and laying the wood-paving, the preliminary work being omitted owing to the uncertainty of its extent. There was also a schedule of prices which went into much detail. The Judge considered that the plaintiffs complied with the instructions, and left the amount to be paid for excavation, concrete, cement, &c., as indeterminate until priced out by the schedule in accordance with the quantities they had executed. That was, his Lordship said, the customary system adopted in London. In Brighton there could not be an uniform price, for the depth of excavation varied from 6 inches to 15 inches. The Corporation were therefore not justified in asserting that the work in question was a lump sum contract, although counsel endeavoured to uphold that view.

If a lump sum contract were entered into the measurement would be one of area, or the superficies of the wood-paving. But it was given in evidence that the Corporation's officers measured not only the surface but the depth of excavation, which is in keeping with the ordinary practice for similar work. The explanation of the dual character of the specification which occurred to Mr. Justice Grantham's mind was that dual authorship was employed in its preparation. Mr. Holliday, the engineer for the tramway, contributed the part relating to his share, including the excavation and other work below the surface of the street, and arranged that the payment was to be according to a schedule of prices. Mr. May's share related to the wood-paving, and could therefore be measured and paid for either in a lump sum or according to its superficial measurement. There was no attempt to co-ordinate the two classes of work, and, as Mr. May was the permanent official, the specification in its general character may have corresponded with the previous arrangements for contracts concerning wood-paving.

One of the causes of litigation over documents is that people are disposed to interpret them to their own advantage. A building owner may imagine that he has had a stroke of luck in being able to obtain work for less than its value, and the idea is so pleasing it is difficult to convince him he is in error. But corporations cannot be led into mistakes by such freaks of the imagination. Street improvements, the construction of tramways, &c., dare not be undertaken until permission is obtained for borrowing the money. Plans and estimates have to be submitted to a Government official, and the cost is consequently known to the corporation, council, or local body. It would be amusing if the affair were less serious to consider the conduct of the Brighton Corporation when they were informed about the error in the plaintiff's tender. It only shows, as the Judge remarked, that people will act collectively in a way they would scorn to do as private individuals. Mr. May, in the first place, prepared a proposition which the Judge characterised by saying "it is the most extraordinary document, I should think, ever penned by anybody who thought he was an honest man, and that his Corporation was composed of honest men." The money that was borrowed for the works was repayable under varying conditions. Part was lent for a short term of years, part for a long term. Assuming that 12,000*l*. would be gained, it was advised that over one-half of it should be assigned to the tramway fund, which in some mysterious way would make the tramways appear as if they were constructed on exceedingly economical terms. "Virtue itself turns vice, being misapplied," says Shakespeare, and Mr. May's immoderate loyalty to the Brighton Corporation, and his desire to make public works seem satisfactory and economical, led one of the shrewdest engineers into counting chickens before they were hatched.

But how did the Corporation act? An ex-mayor and alderman suggested the peculiar duality which characterised all the proceedings by saying, according to the Judge's report:—"The town clerk and Mr. May think complainant ought not to be paid anything for the excavating, and so I say so. If the specification does not say he is not to be paid, he ought to be paid. No, I mean if the specification does not demand concreting, he ought to be paid." Here we see a man suffering from the thought of a divided duty. He would like to see contractors paid for their work, but he would also like to see the Corporation enjoying a wind-fall. Another member of the Corporation admitted that the cost of some wood-blocks they sold to the plaintiffs was about 10*s.* a square. The cost of laying would at least make the difference between the 10*s.* and the amount of the tender. Finally, we have Mr. May admitting:—"I committed myself to my committee that the tender included the work of excavating without looking at the documents. The specification says what is to be done, but not what is to be paid. The schedule of prices shows what he is to be paid. In my original tender as drawn it did show they were to do excavation, but that was struck out. I am not responsible for the alteration in the draft agreement. I was instructed to prepare a bill of quantities. My bill of quantities is only the form of tender. It is merely superficial area."

Well might the Judge declare that he was in a dilemma, for with witnesses who did not appear to recognise that they had a duty to the contractors as well as to the town of Brighton, and with documents which became inconsistent as soon as they were compared with one another, how are the rules of evidence to be applied? The very inconsistencies may, of course, in a Court of another kind turn out disadvantageously for the plaintiffs. There is no doubt the contract deed is incomplete. Mr. Justice Grantham says it can still be rectified by adding to the words of the tender that the plaintiffs would make the excavation and properly concrete, &c., for the foundation for the wood-paving according to the schedule of prices attached to the specification. That is a proposal about which no lawyer could be certain. It may or may not be acceptable by other judges. Many things are done for the protection of corporations which are not allowed for individuals. The question may, however, be asked whether the Brighton Corporation would be acting wisely in incurring still larger expenses for the sake of what we may call a misconception. The plaintiffs have carried out their work faithfully, and so far their interpretation of the document seems to be correct. Brighton has had the benefit of their work. They have, moreover, offered to accept 12,000*l.* and costs, instead of the 14,600*l.* and costs, the amount adjudged. If it should happen that the contractors are to go unpaid the public will not be disposed to place any higher value upon the infallibility of the Corporation or upon the excellence of their system of conducting public works. It is not an advantage either for public bodies or for individuals to acquire a reputation for unfairness.

COOPERS HILL COLLEGE.

THE contemplated closure of the Royal Indian Engineering College is one of those reforms which few Government Departments care to undertake. It is equivalent to a confession of failure. But under the circumstances the college could not be allowed to remain open. It originated in a panic and the desire for the creation of a new caste. It comes to an end because the original intention was too faithfully followed. About fifty years ago, when railways were to be constructed in India, the necessary civil engineers were obtained without the least difficulty from England. Men of that profession had already realised that if they sought success they must be willing to accept foreign appointments, and India was a promising region. Then came the Mutiny, and there was a suspension of works. When they were resumed appointments were made as before. Lord Stanley, who was a faddist, became Secretary of State for India, and he resolved on a change. Instead of engineers who were possessed of experience, he preferred young men either fresh from classrooms, or who had been a year in an engineer's office and who would compete for the appointments. The competition was "purely nominal." As the railway works extended there was occasionally a greater demand for assistants, and as they were not always forthcoming at a moment's notice, it was decided to establish a special college for the training of civil engineers for the Indian service, or in other words, there was to be a reserve always available. It is worth notice that the Indian authorities did not originally approve of the scheme. In one of their documents on the subject it was said:—"We consider the success of such a college to be a matter of very great uncertainty; that it must be regarded entirely as an experiment, and that we have grave doubts that any real necessity exists for its establishment." Time has shown how real were the apprehensions, but when an English statesman is ambitious to be a creator he is not disposed to listen to reason.

It was ominous that the estate which appeared most eligible was one known as Coopers Hill, belonging to the notorious Baron Grant, the price of which was 55,000*l.* Further expenditure was necessary, and in June 1903 the capital laid out amounted to 168,655*l.* When the premises had been altered it was announced that fifty students would be admitted after a competitive examination. The age of candidates was to range from 17 to 21 years, and the amount to be paid was 150*l.* a year. The annual charge was afterwards increased to 183*l.*; but if all expenses are recognised a student pays about 280*l.* a year. High as was the cost of instruction to students, the college was never self-supporting. The deficit in working amounts to 48,345*l.*; or, if interest on capital outlay, &c., be taken into account, the total is 170,643*l.* The figures would be increased by 23,018*l.* if the sum received for testing materials in the laboratories were not recognised. The deficit is not large if counted by the averages in many public departments; but Coopers Hill proposed to be self-supporting, and to the official mind that was a departure from precedent which merited punishment.

If we remember the strength of the teaching and administrative staff the loss will not surprise those who have had the least experience of educational institutions. There are at present the following officers attached to the college:—A president, a secretary, a bursar, a chaplain, a medical officer; besides the following teachers:—Professor of engineering, assistant professor, senior instructor in surveying, junior instructor, instructor in engineering and geometrical drawing and estimating and lecturer on building construction, instructor in geometrical drawing and freehand drawing, lecturer in accounts, superintendent of workshops and mechanical laboratory, assistant superintendent, professor of applied mathematics, professor of pure mathematics, professor of electro-technology and physics, two demonstrators, instructor in telegraphy, lecturer in chemistry, lecturer in analytical chemistry, assistant chemist, lecturer in geology and mineralogy, principal professor of forestry, assistant professor, lecturer on botany and entomology, lecturer on organic chemistry, instructor in French, and an instructor in German. The college has accommodation for 125 students, and it will be evident that the proportion of professors to students is remarkable, for approximately it is 1 to 4. If considered in relation to appointments the ratio is still more amazing. Since 1883 the largest number of engineer appointments in a year was 16, and the number of late years is about 12. The special committee were therefore justified in saying they were doubtful whether it was worth the while of Government to continue to maintain the college at such a heavy cost both to the Government and the students.

The tests of cost should be the students who are successful rather than those who receive instruction. According to a return by the president, Colonel Ottley, "Out of an average entry of 42 men a year, an average of 15 drop out of the batch during the course, and 10 more complete the course without obtaining an Indian Government appointment, whilst only 17 get such appointments. In other words, of every 42 who have entered the college, more than 35 per cent. have dropped out; about 24 per cent. have completed the course, but failed to get an Indian Government appointment, and 40 per cent. have obtained appointments." It will be evident that less than one-half of the students who have paid 280*l.* a year for education and maintenance at Coopers Hill have attained the object they sought. If they were always the sons of wealthy men the loss of time and energy might not be difficult to bear. But we are told that one student's father was a loco-shed foreman, another was a girder erector on a railway, a third was an overseer, a fourth a traffic inspector. Colonel Ottley maintains that the high fees do not deter students of a humble class.

The administration may have been a factor in the failures. Mr. Minchin, the professor of applied mathematics, said in his evidence:—"We were completely at the mercy of non-educational presidents; really the success of the college in sending a number of good men to India was rather in spite of the system than anything else. One president thought one thing was important, another thought a very different thing was important, and so on. We had this system of wrench going on for a very long time." But when they began to work in India, were the students superior to men who had passed through a different sort of training? That is a question to which various replies were given. When the college was founded it was anticipated that *esprit de corps* would characterise all who left it. There were repeated references to that spirit by witnesses. Those who had the best means of judging regarded it as an illusion. Mr. UPCOTT, Government director of Indian Railways, said:—"My experience of the *esprit de corps* of the Coopers Hill gentlemen is that it is mainly confined to their having social gatherings occasionally." But there is no doubt it animated witnesses who were formerly students of the college. According to them the engineers who came from Coopers Hill to India entered on their duties under the happiest conditions, for they were specially prepared for what was to be undertaken. Inquiry was made about the extent of the special preparation; it was found to consist in a more constant practice of land surveying while at college. Sir A. M. RENDEL described surveying as a low branch of the profession and very easily acquired, and in that opinion the majority of engineers would agree. The truth, we suppose, is that the Coopers Hill men are granted special privileges owing to the connection of the college with the Government, and they assume that the difference in treatment between themselves and other young engineers arises from superior skill. As one witness said, "There are a great many family considerations and other things that keep them more constant to Government service. They often get a nice easy job, and are quite content to live and exist." Like all true Englishmen they can exert themselves, but they have advantages and are more certain of ultimate success.

"Family considerations" probably have had much to do with the change which has taken place in the official mind of India respecting the college. Originally, as we have stated, the authorities in India had grave doubts about the necessity of setting up such an establishment. At present it is only in India advocates are to be found for preserving Coopers Hill. The India Office, which was its creator, has now resolved on its closure. It cannot be said that any public inconvenience will follow. All that the Indian Engineering College was required to do was to produce engineering assistants, and they have been obtainable, as it were, in the market in excessive numbers during several years past. The facilities for the education of men of that class are increasing. As will be seen from the evidence of the Edinburgh Professor on another page, young engineers with all the knowledge which can be obtained from three years' study are willing to give their services for 50*l.* a year. The examinations they have gone through are more stiff than those at Coopers Hill. For such men the terms offered in the Indian service would be very acceptable. Moreover, Edinburgh is not the only nursery for engineers. London, Cambridge, Manchester, Leeds, Liverpool, Birmingham, Glasgow, Dundee, Cardiff and Dublin have their engineering courses which are adequate to all the requirements of Indian public works.

The evidence of Sir A. M. RENDEL, the consulting engineer for several of the Indian railways, is conclusive on the subject. He has to select engineers for various employments. He adopts no extraordinary or costly methods to discover eligible men. Sir A. M. RENDEL simply advertises in the newspapers, describing the evidence of skill which he requires, and he finds no difficulty in obtaining what he seeks. When employment was only for an uncertain term it was not to be expected that first-class candidates would be forthcoming. But he was surprised when, in reply to an advertisement offering 450 rupees a month on a five years' engagement and no chance of a pension, he got "men of good social standing and good professional experience," having "all round excellence." Some of them had already experience of hot climates. Of late years people have taken to professions with more eagerness than prudence, and the melancholy result is that the market is overstocked. Indeed, in many cases men are over-educated for the purposes they are likely to be used for. Engineering assistants have for many years to be employed on services which are only routine, and they run the risk of forgetting much which they heard from professors at college. Sir J. WOLFE BARRY in his evidence expressed himself in a way which is applicable in other cases besides Indian assistants. He stated:—"I may say I have taken much interest in this business of education, and I am extremely anxious to see the university course shortened. That is to say, I am anxious to see the old universities enter men at least a year—probably a year and a half or two years, if they would—earlier than they do now; so that a man may get through his university course from one to two years earlier than he can now, and that the course should also be shortened. I think there is an amount of time spent at the university which is unnecessary. I hope that will come about." Indeed, when he had to acknowledge that a man who had paid a premium of 500 guineas, served four years with an engineer and had passed the examination required by the Institution of Civil Engineers was worth only from 100*l.* to 200*l.* a year in the open market, it must have seemed doubtful to the special committee whether the game was worth the candle. Coopers Hill offered more chance of a slight return for the large outlay, but none the less, the life of that costly institution has come to an end.

RECENT DISCOVERIES IN ROME.

THE following communication from Mr. H. Stuart Jones, Director of the British School of Rome, has appeared in the *Times*:—

In November last you were good enough to publish a letter received from me in which some account was given of recent excavations in Rome. I then directed the attention of your readers to the discovery of the Ara Pacis Augustæ in the Campus Martius and the more recent results of Comm. Boni's work in the Forum.

The winter season has witnessed the progress of excavation in both these quarters; but in the case of the Ara Pacis the technical difficulties to be surmounted, arising from the fact that the work has to be carried on partly below a thoroughfare and partly under the Palazzo Fiano, have rendered the exploration of the site a slow and costly process. The engineering works directed by Signor Cannizzaro will doubtless in time permit the solution of the important questions regarding the surroundings of the altar-precinct and the recovery of the remaining fragments of sculpture. So far, however, it has not even been found possible to raise the fine panel of the frieze with the figures of flamines mentioned in my previous letter, although a slab on which is carved a bearded figure (ideally representing the Roman Senate) in the act of offering sacrifice has been brought to the surface. This is specially interesting since the adjoining block, which completes the scene, was discovered in 1859 and is now in the Museo delle Terme. The recent finds have fortunately settled the difficult question as to the distribution of the various sculptures on the four sides of the building, and the results have been set forth in a preliminary report by Professor Pasqui, the director of the excavations, and in papers by Professor Petersen of the German Institute, whose previous conclusions have been in some respects modified. No place can be found for two of the reliefs in the Villa Medici formerly supposed to have belonged to the Ara Pacis, but the Villa retains other panels, including that on which Augustus himself is represented. This, together with another fragment, was used in the sixteenth century to form a pasticcio with plaster restorations, and it is much to be wished that both it and the other panels similarly treated might be removed from their present position and placed beside those portions of the monument which have been subsequently discovered. Let us hope that the cordial relations between France and Italy, so signally manifested on the occasion of M. Loubet's visit to Rome, may be further exemplified by the transference to Italian hands of these memorials of Imperial Rome. It must be mentioned that the work of the excavators has been seriously hampered by scarcity of funds. It is to be hoped that the financial difficulties from which the Ministry of Public Instruction suffers will not be allowed to interfere with the speedy completion of so excellent a piece of work.

The aspect of the Forum continues to give evidence of the unflagging energy of Comm. Boni. Visitors to the Basilica of Constantine may now see portions of the original pavement in coloured marbles, partly buried under huge blocks of concrete which have fallen from the lofty vaulting. The exploration of the prehistoric tombs beside the Sacra Via has also made steady progress, and the series of "augural pits" which seems to mark the limits of the Forum as laid down by Julius Cæsar has been traced at the eastern end beside and beneath the temple of the great Dictator.

But the centre of interest unquestionably lies in the area of the Forum itself. Readers of the *Times* will recollect that in the course of last summer Comm. Boni discovered beneath the pavement of the later Empire the foundation of a large monument which he identified from its position with the famous equestrian statue of Domitian described by Statius. This identification seems in a fair way to be generally accepted, although sceptics profess to find a difficulty in the position of the three sockets in which the supports which carried the legs of the Imperial charger are supposed to have been fixed. It is true that their arrangement does not correspond with that usually observed in existing equestrian statues, such as that of Marcus Aurelius on the Capitol; but Comm. Boni believes that a satisfactory restoration is possible. Meantime, he has instituted a search for the deposit made at the time of the inauguration of the monument which has led to most unexpected results. The deposit, indeed, was found in a specially constructed chamber of travertine, embedded in the concrete foundations; but it consisted of five vases precisely resembling those found in the later tombs of the prehistoric necropolis by the Sacra Via, which date from the latter part of the eighth century B.C. The vases contained nothing but a piece of native gold and minute quantities of pitch and tortoise-shell. Comm. Boni sees in the presence of the gold nugget a proof that the deposit dates from the inaugural ceremony, comparing the statement of Tacitus (Hist. IV. 53) that when the foundations of the new Temple of Jupiter Capitolinus were laid by Vespasian, *passim iniectæ fundamentis argenti aurique stipes et metallorum primitiæ, nullis fornacibus victæ, sed ut gignuntur*. In that case we must suppose that vases were made for ritual purposes in exact imitation of the fabrics of the eighth century B.C ; and some support is lent to this view by the fact that pottery of a rude and archaic character has been found in the grove of the Dea Dia, where the ceremonies of the Arval brotherhood were performed, and seems to have been in use in Imperial times. Others, however, have put forward the view that an ancient tomb was discovered by the workmen in laying the foundation for Domitian's statue, and that a place was made for its contents as nearly as possible on the spot where they were found. The grouping and variety of the vases certainly suggests a sepulchral deposit.

A still more interesting discovery was made in the latter part of April. Comm Boni has long been eager to find the spot so famous in Roman legend as the Lacus Curtius The familiar story of the chasm filled by the self-sacrifice of Marcus Curtius, which was placed by tradition in 362 B.C, was not without rival versions. Some historians traced the name to Mettius Curtius, the leader of the Sabines in their battle with Romulus; others, whose rationalism took a more prosaic tinge, to Caius Curtius, Consul in 445 B.C., who was said to have erected a puteal on the site where a thunderbolt had fallen. The popular story, however, is doubtless the oldest, and seems to be commemorated by a bas-relief, said to have been discovered in the Forum in 1553 and preserved in the Palazzo dei Conservatori, whose antiquity has been called in question, probably without sufficient reason. What is certain is that by the close of the Republican period the lacus had been replaced by an altar at which offerings were made to the *manes* of Curtius. Ovid, in fact, says (Fast. VI., 404):—

> Curtius ille lacus, siccas qui sustinet aras,
> Nunc solida est tellus; sed lacus ante fuit.

Comm. Boni noticed in the pavement of the later Empire a block which had evidently formed the angle of an enclosed precinct, orientated not by the lines of the Imperial Forum, but by those of Republican constructions. The pavement was removed, and beneath it was found a paved enclosure of irregular shape, at the south end of which was a circular foundation of tufa blocks. In a cavity in one of these blocks were the charred remains of a sacrifice—perhaps the last offered to the shade of Curtius, if the identification with the Lacus Curtius and its altar be correct. The precinct appears to have contained other monuments beside the altar of Curtius, and to have been altered in shape if not in position more than once. Comm. Boni thinks that these alterations may have been connected with the rebuilding of the Basilica Julia, which is separated from the enclosure only by the Sacra Via and the honorary monuments of the fourth century A.D., and intends to make a thorough "stratigraphical" exploration of this portion of the Forum, which should lead to important results. It is also hoped that the coming summer will see further progress made with the excavation of the Basilica Aemilia, while there has been some talk of the commencement of the long-deferred researches on the Palatine, which should determine the site of the Temple of Apollo and palace of Augustus.

In conclusion, it is worthy of mention that those present at the final meeting of the German Institute on the "birthday of Rome" were privileged to see the fragments of an Imperial monument, discovered in the course of the construction of the new Piazza dell' Esedra, which have been presented by their owner, Dr. Hartwig, to the Museo delle Terme. Their chief interest lies in the fact that on one of them is represented in relief the Temple of Quirinus, in whose pediment we see a group which unmistakably depicts the auguries taken by Romulus at the foundation of Rome. A flight of birds hovers in the centre of the pediment, while Romulus and Remus, with attendant divinities, occupy the wings. It has not yet been possible to determine to what monument these sculptures belong.

THE OFFICES OF THE "TIMES."

THE new arrangements for making the *Times* more accessible to the public have imparted additional interest to the block of buildings in which the journal is produced and which has acquired national importance. The following account of the offices has appeared:—

The story of Printing House Square and its site, unfamiliar as it is to the general reader, will be found to disclose historical associations no less precious than those that appeal daily to us in the battlements of the Tower of London or in the bricks of Lambeth and St. James's.

In an epoch of rapid architectural construction and reconstruction, when the face of London is losing many historical landmarks, and hardly a day passes but some tottering house and sickly alley disappear to give place to widened streets and sturdy buildings expressing new needs and new aspirations, two opposing sentiments are freely proclaimed by persons accustomed to observe the phenomena of their time. There are the people who say that historical associations should be preserved at almost any cost, that to destroy a building sanctified by the memory of a poet who lived there, or by an event that stirred the emotions of great and humble alike, is an irredeemable act of vandalism. Others, more keenly alive perhaps to the spirit of their own time than to the traditions of the past, welcome any innovation that quickens their appreciation of contemporary events. And the spirit of these conflicting sentiments is reflected in the buildings of the London of to-day, which show a variety of architectural expression distinguishing it from every other capital in the world. Where else, for instance, can you measure such a distance of idea as lies between Westminster Abbey and the Hôtel Cecil? The beauty of the Abbey is made more impressive than ever for the Londoner by the fact that it is at war with all but its immediate environment. The utilitarian ugliness of the hotel quickens our perception of the growing material demands of the city. Both suggest the same story from different points of view. But between such evident extremes will be found buildings that strike a more temperate architectural note than the Mediævalism of the one or the modernity of the other. Such are a few of the clubhouses in Pall Mall and Piccadilly. Such is the *Times* building in Printing House Square.

Here past and present unite in an almost impenetrable sobriety of expression. If speculation could be arrested at the sight of the thirty-five windows in that dull red-brick front, blackened by the smoke of the railway engines that cross Blackfriars Bridge, the spectator might well pass on with a sigh at the gloominess of this densely populated city. But the very name "Blackfriars" raises a spirit of inquiry, and in pursuit of this inquiry the strangest cycle of vicissitudes is manifested on the site now chiefly associated in our minds with a perfectly organised system of journalism. A great monastery, a famous playhouse, a treasury of herrings, a royal printer's workshop—such are the changes that the centuries have rung upon that portion of London known to-day as Blackfriars.

In 1279, the eighth year of the first Edward's reign, the Black Friars had begun to erect the new buildings of that monastery which until the Reformation occupied the site now partly covered by the offices of the *Times* newspaper. The work of the new building was delayed by opposition from the Dean and Chapter of St. Paul's, who probably feared the neighbourhood of so powerful a religious order. But the king's will prevailed; and among other stones employed for the building were those of Baynard Castle and the Tower of Mountfitchet, the sale of which from Robert Fitz Walter to the Archbishop had been licensed by the Crown in 1275. The Black Friars were held in great favour by Edward I., and the student of his reign will come across facts that give to the Printing House Square of to-day a historical significance little suspected from a more superficial inquiry.

Soon after its foundation the Blackfriars Priory assumed all the importance of a great national institution. Edward II. stayed in its hospitium in 1311 and held a Parliament there. In 1443 it served as a storehouse for ordnance, in 1522 the mighty Emperor Charles V. stayed there on a visit to England, in 1523 King Henry VIII. held a Parliament known as the "Black Parliament" within its walls. Eleven years later, on

April 17, 1534, "Frater Robertus Strowddyll, D D., humillimus prior fratrum predicatorum," with the consent of his brethren, signed the submission to the royal supremacy.

From the vicissitudes of what other site in London can we construct a more eloquent chapter in the history of England than from that on which now stand the peaceful premises of the *Times*? The monastery rose under the protection of a sovereign, flourished under his six successors for more than two and a half centuries, and at length, under the imperious will of the most masterful monarch that ever presided over the destinies of the country, succumbed to the invasion of a new world of political and religious thought. Three weeks after the friars had signified their submission the implacable nature of the royal will was made further manifest by an order to bury in the cloister the headless corpses of two Benedictine monks, Edward Bocking and John Dearing, who had been hanged and beheaded at Tyburn with Elizabeth Barton, Holy Maid of Kent, for their share in the denunciation of the king's divorce. On November 12, 1538, the Prior made surrender of the "House of Friar Preachers of the order of St. Dominic, commonly called the Blake Freers in London."

Within twelve years fourteen leases and eighteen sales or grants were effected by the Crown to various persons. Thus in 1550 we hear the first faint note in that great symphony of industry performed to-day in the parish of Blackfriars, and a little world of shops belonging to barbers, haberdashers and other tradespeople replaces the Mediæval world of earlier centuries. The church was closed and fell into decay. In 1544, when the Dutch were masters of the sea, it was used as a storehouse for herrings brought from Antwerp up the Thames.

Shortly after this period the Priory church was levelled to the ground and the material was sold. One might imagine that all traces of the existence of the monastery had been finally destroyed; but in the course of excavation carried on for the purpose of rebuilding the *Times* printing office in 1855 the workmen came upon a plinth and foundation of one of the buttresses of the ancient convent church, and thus the process of reconstruction served to revivify, in the light of modern surroundings, the memory of a great past that but for this discovery might have remained little more than a written record.

With the abolition of the Priory a new epoch in the history of the site begins. The land was extra-parochial. In the days of the monastery the prior had had a gaol and stocks for punishing offenders; a small township had grown up within these walls and the right of sanctuary, which belonged to the Blackfriars, had saved the life of many a fugitive from sword and rapier. Now all was changed; and while the industrial side of life is seen to develop rapidly within the next half-century (*i e.* between 1550 and 1600), the place loses its tranquillity and order to become a dissolute and turbulent thoroughfare, in which gentleman and cutpurse, Anne Page and Doll Tearsheet move close upon one another's heels, secure from the jurisdiction of the City. We are still in an epoch when the theatre covered in with a roof was unknown. and the suppression of what were known as "play places" did much to contribute to the development of the theatre of to-day. In 1596 Burbage bought from Sir William More a freehold, consisting of a house with seven large rooms, middle storeys and upper rooms. This he converted into a playhouse, the first performance taking place probably in November 1598 and the last in 1642, when the theatre was finally closed in consequence of an ordinance issued that stage plays should cease on account of the Civil War. It has been confidently asserted that Shakespeare had a share in the Blackfriars Theatre, and even acted there himself, but there is no good evidence in support of the contention. The career of this playhouse was interrupted by the Plague between 1606 and 1610, when all the theatres were often closed for months in succession.

Where the friars had once prayed, the plays of Jonson, Fletcher, Massinger and Field were now acted by candle-light, and audiences appeared in the Blackfriars playhouse in the latter years of Queen Elizabeth's reign and through the reigns of James I. and Charles I. As if to put its terrible seal on the Puritanical antagonism to the theatre associated with the Protectorate of Cromwell, and extending into the early years of the Restoration, the Great Fire in 1666 devastated the site.

From 1667 until the present day Blackfriars has been associated with the printing press. A year after the Great Fire new premises known as the King's Printing Office are found on the site of the theatre. Here John Bill founded and printed the *London Gazette*. John Baskett succeeded Bill as the king's printer. The original building of the King's Printing Office was destroyed by fire in 1737. Baskett was succeeded by Eyre & Strahan, who left the premises for a new place of business in 1770. From 1770 until 1784 the premises remained unoccupied. In 1784 the first John Walter took the deserted house for a place in which to develop his logographic press.

TESSERÆ.

Treatment of Porticoes.

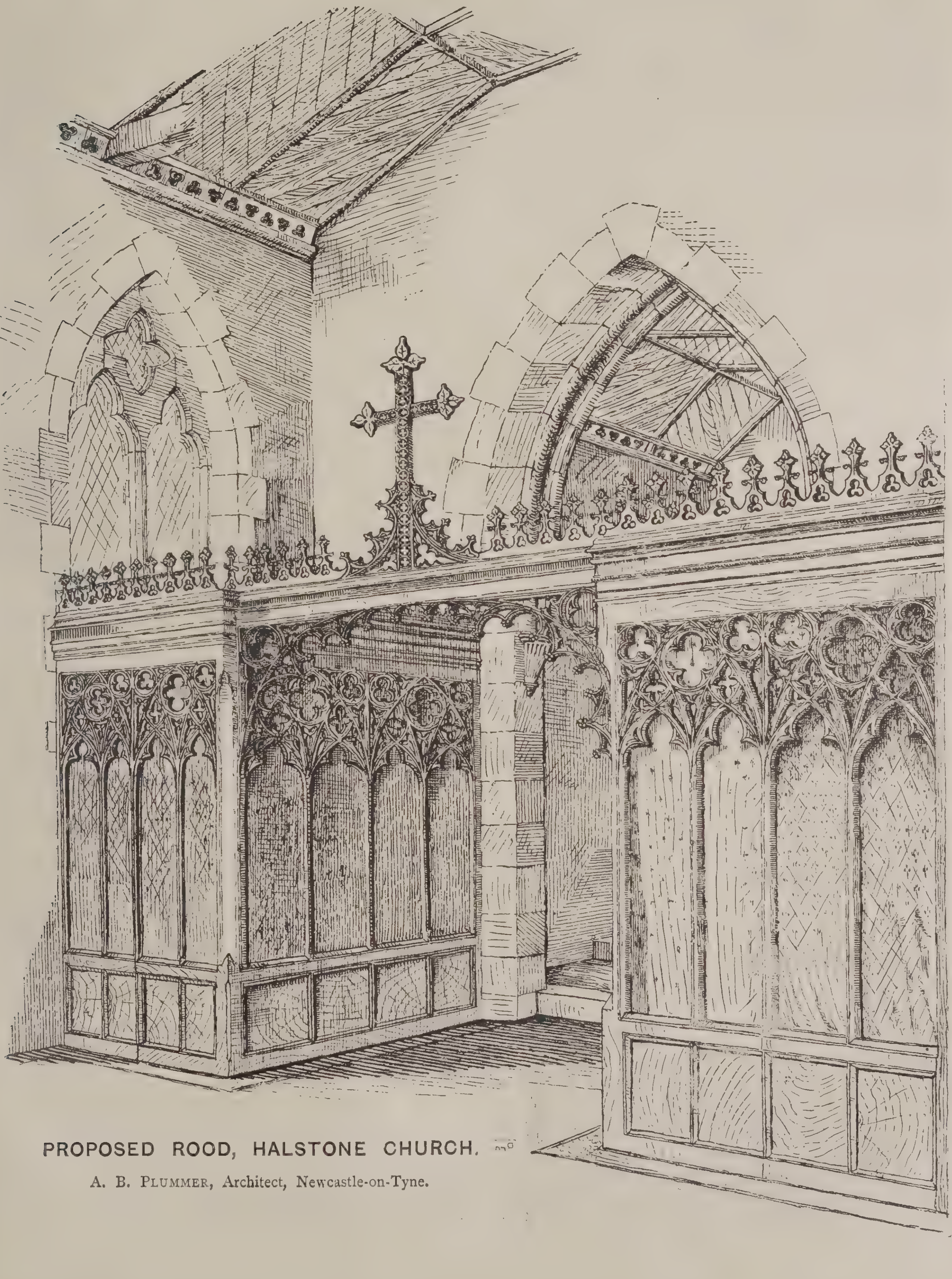
THE want of unity of system is in no instance more obvious than in the application of porticoes with columns, &c., to houses or other structures, in which there are neither columns, pilasters nor architraves indicated in the walls. This is as absurd in architecture as it would be in dress for a person wearing the coarsest woollen cloth to decorate himself in an embroidered silk waistcoat. Porticoes placed against common walls are to be met with in every street, and are not infrequent in the case of churches or other public buildings. In the latter case the error is glaringly absurd in proportion to the magnitude of the edifice. Perhaps it will be asked whether there are to be no porticoes at all when no columns or pilasters are indicated in the main body of the edifice. Our answer is, there should be no Grecian or Roman porticoes. How, then, are porticoes or open shelters to be formed for the entrance doors of plain brick or stone houses that indicate neither Classic nor Gothic architecture? By props or pillars formed of what may be termed slices or sections taken from the walling, and connected with it by corresponding projections and by architraves or lintels similar to those which cover the doors or windows. Such porticoes with rectilinear props may have every useful quality of those which have columns, and belong to Classic architecture, while at the same time they appear to belong to, and to have arisen out of, the construction of the wall against which they are placed. In a brick-built front the props or pillars may be of brick, and in a stone or stucco front of stone or stucco. They may even be of stone, real or imitative, when placed against brick fronts; on the same principle that facings, sills and lintels to the doors and windows in brick fronts are sometimes of stone, viz. that of enhancing the interest and beauty of the more important parts of a composition by the employment of more costly materials and more skilful labour. But if porticoes may be made of stone, or of an imitation of stone, why may not the props be rounded like Classical columns? They should not be made round in general, because there is nothing round in the system of the walls which support the roof of the house; but in extensive fronts, and under certain circumstances, there may be no objection to forming the props cylindrical, though in that case care must be taken never by details, proportions or ornaments to create an allusion to Classical architecture, and never to let it be imagined by the spectator that any of the Greek or Roman orders were intended to be imitated.

Church Organs.

The organ of Westminster in the tenth century had, it is said, four hundred pipes and twenty-six bellows, which were worked by seventy strong men One with twenty bellows, worked by ten men, was long existing at Halberstadt. The blowers had their feet fixed upon the bellows, and holding by a horizontal pole, lifted one by one foot and pushed the following down by the other. The first keys were so hard that they only touched them with blows of the fist; and the stops (*les touches*) were 5 or 6 inches broad when the organ was reduced to an octave. They narrowed them by giving the instrument more extent. The different stops were invented by the Germans. Bernard, in 1480, invented the pedals, which he played with small cords. A few years before 1615 Timothy, an organ-maker, repairing that of Würzburg, placed there the first known registers. They were used in common at the same era with the hydraulic organ, as appears from Augustine; but the first of bellows without water, whose epoch is certain, is that which Louis le Débonnaire ordered to be made in the church of Aix-la-Chapelle. The Germans imitated it, and John VIII. had a maker from thence who probably put up the first in the Italian churches, the story of Pope Vitalianus being manifestly erroneous. The monks of Italy, of the Orders devoted to manual labour, applied themselves to the fabrication of organs; and in the tenth century a maker was sent into France, from whence they insensibly spread over all the western churches The epigram of Julian the Apostate describes the bellows as "missus taurino e carcere ventus"; but that sent to Charlemagne by Constantine Curopalates could not be hydraulic if it was, as they say, the model of Louis's, because the monk of St. Gall describes it as composed "doliis ex ære conflatis follibusque taurinis per fistulas æneas mirè perflantibus." The organ at St. Albans in 1450 was deemed the best in the kingdom. In parish churches they were exceedingly rare in the seventeenth century, and anciently placed on the north side, in order that the organist might not turn his back upon the altar. In the Civil War they were all put down. James I. introduced them into Scotch churches. Table organs were in being at the end of the seventeenth century.

The Staircase.

Palladio, and others following him, have laid it down that the staircase ought to be seen immediately on entering a building, but it is impossible to establish any positive rule for what must depend upon particular circumstances, and this is by no means the best as a general rule. In a public building or place where strangers go in and out without inquiry, it may be desirable that the staircase should present itself at once, but certainly this is not the case in private mansions. On the contrary, it is in every respect better that the staircase should be kept out of view until the first vestibule has been passed through, and that it should be placed as remote from the entrance into the house as the plan will admit, but in order that the approach to it may be lengthened and that, in case it has any architectural pretensions at all, it may strike the more by not coming into view at once. At all events, only the lower part of the staircase—no more than is sufficient to indicate its situation—should be visible from the entrance, otherwise it will be inconveniently exposed; and if there are doors to several rooms on the upper landing persons passing from one to the other would be seen from the hall. It is therefore a great error to place the staircase, as is sometimes done, in the first or entrance hall of a mansion, because, in addition to the inconvenience just pointed out, such hall must be made the height of two floors, and consequently, if otherwise suitably proportioned to such height, it will be the most spacious and loftiest room, and so far be attended by a degree of effect which, instead of being afterwards increased or kept up, is greatly diminished. Such arrangement also cuts off the communication above between the rooms on one side of the hall and those on the other, except there is a gallery or continuation of the landing carried over the entrance.



PROPOSED ROOD, HALSTONE CHURCH.

A. B. Plummer, Architect, Newcastle-on-Tyne.

NOTES AND COMMENTS.

ONE effect of the discussions over foreign competition is the increased attention which is given to systematic procedure in works and to the details of expenditure. Everyone knows that a large amount of business has been carried on in this country with a very loose way of determining the actual cost to the producer. If there happened to be a loss, it was supposed that in some mysterious way there would be compensation, and at the close of the year the balance returned by the banker would be on the right side. In most varieties of business the happy days when things used somehow to set themselves right are vanishing. Competition is too keen and purchasers are too knowing. Products cannot any longer be assessed in bulk; the closest analysis of detail is indispensable. One result is the superseding of the old-fashioned system of book-keeping. The once familiar advertisement of "tradesmen's books kept in the evening" no longer serves, for a scientific system is needed which will enable the progress and cost of work to be manifest at every stage of production. This can only be accomplished by elaborate tabulation of a kind that is not recognised in the ordinary treatises on book-keeping. It may be thought costly, and it requires ability and the concentration of, at least, one able mind in each manufactory, but expense and labour will eventually be repaid. An example of "How to do it" will be found in the "Workshop Costs for Engineers and Manufacturers," by Messrs. SINCLAIR PEARN and FRANK PEARN, of Manchester, which has been brought out by the Technical Publishing Company, Limited. It is no imaginary system that is displayed, but one which has been daily in use for twenty years in the authors' engineering works. The method is divided into five parts, relating to the nomenclature and registration of patterns and materials, the recording and analysis of labour, manufacture of repetition work, the stores or assembly work, contract or special work. Messrs. PEARN exemplify the system in its application to four varieties of their pumps, but it can also be applied to other products. The pages are of the size of ordinary account books, and are ruled in columns according to the purposes required. There are ample explanations, and any person who is in earnest can find little difficulty in utilising Messrs. PEARN's system. It is not to be expected that with so much detail a glance is sufficient. The tables are the result of a long experience, and probably those employers alone who have been bewildered in their efforts to bring order into chaos will be most appreciative of what Messrs. PEARN have accomplished.

THE series of photogravures after the Great Masters, published by Mr. WILLIAM HEINEMANN, continues to be of uniform excellence. As reproductions nothing has hitherto enriched the portfolios of amateurs of equal value at so modest a price. No matter to what school the painting belongs its characteristics are rendered with a fidelity which is remarkable and which for students of art makes the plates have more value than the costliest engravings. In the collection the English representatives hold their position against their foreign rivals, for the process is impartial and does justice to Italians, Englishmen and Dutchmen, to landscape, portraits and figure compositions. The influence of such a work it is difficult to estimate.

WE have noticed the efforts of the Engineering Standards Committee to obtain uniformity in the sections of rolled iron and steel. A quarto volume has been published by Messrs. ROBERT ATKINSON, LTD, containing the coded lists as well as directories of firms who are rollers of the sections, merchants who supply them, and constructional engineers and others who employ them. A large part of the volume consists of a selection from WHITELAW'S vocabulary of telegraphic words. The use of the words will bring about much economy in telegraphic communications. For instance, instead of saying "Steel channels, with both sides at an angle of — degrees from right angles," it will save time, labour, money and temper to substitute the word "Acculiate." It is curious that neither the word "drawing" nor "design" is mentioned, although there is no doubt whenever iron or steel structures are in progress many telegrams relating to those subjects are transmitted. "Details," to some extent, may be a substitute. In telegrams there is always risk in dealing with figures. By the code the difficulty is avoided. "Almocassem" is more likely to reach a destination than 8 feet 9¾ inches, and "Ambacht" than 39*l.* 15*s.*, and "Angeltze" than 2$\frac{1}{16}$ inches by 2⅞ inches. The coded lists are clearly printed on thick paper, and will long serve for constant reference in offices.

A WORKMAN who has obtained compensation for injury under the Workmen's Compensation Act cannot obtain further compensation for the same injury by pursuing any other remedy which may be available to him independently of the Act. It was decided by the Court of Appeal (overruling WILLS and KENNEDY, J.J.), in the case of TAYLOR *v.* Hanstead Colliery Company, that this principle applies not only when the workman has obtained compensation directly under the provisions of the Act, but also where he has obtained compensation under a scheme of compensation which (under section 3 of the Act) has been approved by the Registrar of Friendly Societies, and has been substituted for the provisions of the Act relating to compensation. Compensation under such a scheme is compensation under the Act; and this applies both to claims by the workman himself and, as in this case, to claims by the representatives of a deceased workman. But for the decision of the Divisional Court, we should have thought that the Act was so plain that it hardly required a judgment of the Court of Appeal to settle the question.

SWEDEN has resolved to resemble other countries in utilising the Press for the advancement of business. A new journal, *Affärsvärlden*, is a good example of its class. We learn from it that the Riksdag has granted 10,000,000 kronen, or about 550,000*l.*, to those who wish to create "own homes" for workmen and people of small means. The maximum value of each is to be 250*l.* In considering the trade in ore it is anticipated that the "Bessemer ore" will find its way to England and Scotland as hitherto, while most of the "Thomas ore" will be taken by Germany. The Swedes doubt whether the former can be produced to excess, for the demand is so great several millions of tons could be advantageously placed on the market. The statement suggests how much is thought of the British steel trade in spite of all that is said about rivals.

ILLUSTRATIONS.

HANOVER COURT, HANOVER SQUARE, W.

DESIGN FOR BUSINESS PREMISES AND FLATS, CROYDON.

CHATHAM NAVAL BARRACKS.—STAIRCASE FROM FLOOR.

CATHEDRAL SERIES.—CHESTER: SOUTH CLOISTER—THE CLOISTERS.

THERE is no necessity for cloisters in connection with a cathedral—although in Chester they are much used as an approach—and where they are found they are evidence that the buildings belonged to a community before they were utilised for cathedral purposes. Chester, as we have before stated, was a Benedictine monastery until 1541. A garth or open space divided the church from the refectory, which was on the north side, the chapter-house being on the east side. It was therefore possible for the monks to pass from one building to another while under cover. It will be observed from a comparison of the illustrations we have given that the cloisters are not uniform in preservation. The part shown in the present number can be credited to Sir GILBERT SCOTT. In the garth is the tombstone of Dean HOWSON, to whose exertions the restoration was owing. It has been suggested that in the cloister were "carrels" or recessed spaces at the windows, where the monks could study or follow the Benedictine rule in copying manuscripts without impeding the passage by their desks or tables.

EARLY PAINTING IN MINIATURE.*

While reading Walpole's "Anecdotes of Painting," I was many years ago much impressed by the high estimate he formed of the extraordinary ability of Samuel Cooper. He says, "If a glass could expand Cooper's pictures to the size of Vandyke's they would appear to have been painted for that proportion." I have long wished to try this experiment, not only on the works of Cooper, but on those of painters in little, many of whom are hardly, if at all, inferior to Cooper in portrayal of character or in technical excellence. Till very recently this was impossible, as the methods of reproduction were imperfect, and enlargements in monochrome were not satisfactory. Now, however, we are enabled, by the adaptation of new processes of colour-photography, to give in life-size the actual facsimile of the exquisite work produced by the great masters of miniature painting.

I presume, by the way, that I need hardly explain to my present audience that the term "miniature" originally had nothing whatever to do with smallness, but is derived from minium—the red paint known as vermilion. This was used in the earlier MSS. for capital letters, for headings of chapters and so forth. The capital letters, in process of time, received decoration, and as art progressed they were used to contain small pictorial representations of subjects in the text. The headings of the chapters and explanatory notes still remained red, and have retained the name of *rubrics*. The pictorial decorations of the MSS. gradually assumed more and more importance, but retained this original name, which has since been given to all paintings in little, and now is generally adopted as expressing almost exclusively something reduced in size or minimised.

Some of the earliest and finest of existing portraits of personages of note are to be found among the little pictures or miniatures which adorn the illuminated books of the Middle Ages. One I would specially mention, as the unique portrait of an Englishman of renown in his day, John, Duke of Bedford, Regent of France, after the death of his brother, Henry V. This is of the date of 1433, and is therefore one of the earliest of existing portraits. It is preserved in the British Museum, and I hope to include it some day in the series of illustrations which I have in preparation, and of which I am showing you the first selection this evening. We cannot unhappily claim the painter as a countryman, and this evening the illustrations are confined to portraits painted in this country.

Apart from the illuminations in service books of various kinds, we may generally assume that the art of portraiture in miniature began with Holbein, whom, though not an Englishman by birth, we may claim as partly English, as here he did most of his fine work, here he lived as servant of the king, and here he died and was buried. Of his merits as a draughtsman or as a painter it is impossible to speak too highly. He ranks as equal with the greatest masters of all time. No eye was ever more observant to see form and character; no hand has ever excelled his in delineating with accuracy and precision what his eye had noted; and no lens has ever equalled his accuracy in portraiture. Of his works in the particular form of art which is our subject this evening, there exist, perhaps, a score. Of these, there are four examples in the Royal collection at Windsor, of the highest excellence, and reproductions of these will now be shown to you in colour, and magnified to the size of life.

The first of these is Henry Brandon, the eldest son of the great Duke of Suffolk, the husband of Mary, sister of Henry VIII. This miniature was painted in 1535, on his fifth birthday, September 6. He died in 1551, having succeeded his father in the dukedom. He fell a victim to the falling sickness, and must always have been of a weakly constitution, as may be noticed by the pathetic look in his eyes.

The workmanship of this painting is of the most marvellous delicacy, and the lines of the features, though the face is only half an inch wide, are of a strength and firmness equal to those in the drawings still preserved at Windsor, of which the facsimiles are known over the whole world of art.

The next slide is the portrait of his younger brother Charles, who was born in 1537, and died on the same day and of the same sickness as his brother, whom he succeeded, though he held the title only for a few hours.

This miniature was painted also on his birthday when he was three years old.

These two miniatures have been always in the Royal collection, and are well known from the facsimiles published early in the last century with the other works of Holbein in the Royal library.

Of the Lady Audley here represented little is known. The same head occurs in crayon, the flesh only slightly tinted, in the same collection of drawings; the dress and ornaments in both are identical.

This portrait, also by Holbein, is of Catherine Howard, the fifth wife of Henry VIII. She was born in 1520 and was executed at Tower Hill in 1542.

The next slide is a fine and not well-known portrait of Queen Elizabeth, taken when first she came to the throne.

It is a most characteristic work of Nicholas Hillyard, the earliest of our native miniature painters, and the real founder of that great school of workers in this branch of art, which has flourished here without rivalry till the advent of photography extinguished it altogether.

Hillyard was born in Exeter, the capital city of the county which has given birth to so many of our great masters. His father was Richard Hillyard of that city, and afterwards High Sheriff. Nicholas, his younger son, was born in 1537, and was originally apprenticed to a goldsmith, but he left this trade for miniature painting. At the age of thirteen he painted a miniature of himself, which was formerly in the Harleian Collection, and may be the one still preserved at Welbeck with the rest of that collection. He was appointed goldsmith, carver and limner to Queen Elizabeth, of whom many portraits by him exist in the various great collections of this country. He survived the queen sixteen years, and till his death in 1619 had the exclusive right of making and engraving all portraits of His Majesty James I. In his treatise on the art of limning he says, "Holbein's manner of limning I have ever imitated, and howld it for the best." He painted miniatures with little shadow, and gives in the same treatise the reasons for this practice in a conversation which he had with Queen Elizabeth, where he explained that pictures painted with "grosse shadows show very well afar off which to limning work needeth not because it is to be veewed of necessity in hand neere the eye. Heer Her Majestie conseved the reason and therefore chose her place to sit in for that purpose in the open ally of a goodly garden, where no tree was neere, nor any shadowe at all.

"This Her Majestie's curious demand hath greatly bettered my judgment, besides divers other like questions in art by Her most excellent Majestie, which to speke or writ of were fitter for some better clarke. This matter only of the light let me perfect, that no wise man longer remain in error of praysing much shadows in pictures which are to be viewed in hand."

The picture now shown may well be the one to which he refers in this short extract from his treatise, for there is certainly no trace of a shadow in it. As might be expected of one who was a goldsmith and jeweller, the objects of jewellery are represented in his work with extraordinary care and precision.

I have included in this series one miniature by a French artist, Francis Clouet, known as Janet, because it is as interesting historically as it is from its merits as a portrait. This is one of Mary Queen of Scots, taken before her widowhood. It is identified by an entry in the catalogue of the limnings in the collection of Charles I. as *Queen Mary of Scotland*, and is fully described among the portraits of His Majesty's progenitors. The dimensions of it are given, 3 inches by 2 inches. It agrees entirely in feature with the drawings by the artist preserved in Paris, and may be accepted as an undoubted portrait of the queen, and a standard by which the authenticity of any attributed likeness may be judged.

Following this, I now show another reputed portrait of the same unfortunate queen. This is from a beautiful specimen of the work of Isaac Oliver, and has been engraved as Mary Queen of Scots, by Houbraken, in his series of heads of illustrious personages. In workmanship and detail it would be almost impossible to surpass this, but there is no doubt that though the miniature was called Mary more than a century ago, it is quite wrongly so-called. It is more probable that it is the portrait of that Countess of Nottingham of whom the legend—by no means authenticated—runs that she detained the ring given by Queen Elizabeth to the Earl of Essex, and thereby prevented the stay of his execution.

Of the painter, I now show a portrait painted by himself. This is one of the smallest miniatures I know, and it is a great triumph for this process of reproduction that all its minute details are given with such accuracy, for the oval is not much more than an inch in its widest diameter. Like most artists Oliver was fond of keeping his hand in practice by painting himself, and I have lately seen another, on a larger scale, in the private collection of the Queen of Holland at The Hague.

Oliver was born about 1536. He may have been of French origin, but has always been looked upon as an Englishman. He was pupil of Nicholas Hillyard, and at first always used the same ultramarine background, which had been introduced by Holbein. Later he relieved his heads against crimson curtains, and occasionally resorted to landscape.

Of this there is a remarkable example in the portrait of Sir Philip Sidney, one of the most celebrated of all his works. This, formerly in the possession of Dr. Mead, was among the many objects of art which the Royal collection owes to one not generally credited with so much taste or generosity—Frederick, Prince of Wales.

Time does not permit me to give a full account of the life of this painter, or to enumerate even the best of his works—they are to be found by scores in the collections of this country, and they have always been esteemed abroad.

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* A paper read by Richard R. Holmes, C.V.O., at the meeting of the Society of Arts on the 11th inst.

He was much patronised in his time, and painted nearly every one of note. His drawing of Queen Elizabeth for the well-known engraving by Crispin de Pass is preserved at Windsor; but I have not reproduced it here, as it is in pen and bistre, and my principal object has been to show only works in colour.

Henry, Prince of Wales, was a frequent sitter to Oliver, and the picture you now see is one of the finest portraits of that lamented prince, and one much cherished by his brother Charles, who succeeded to his heritage. It is mentioned in the catalogues of his works of art, and of those of James II., and remained always in the Royal collection. It mysteriously disappeared, and was discovered by the late Sir John Cowell, Master of the Household to Queen Victoria, hanging in one of the lodges in the Great Park, whence by his means it was restored to its proper place.

Isaac Oliver's son Peter followed in his father's footsteps, and was, perhaps, even more dexterous. His copies of pictures by Correggio, Titian and Raphael, which he made for Charles I. from the originals in his gallery at Whitehall, are still preserved at Windsor. He seems to have been regularly employed as Court painter in little during the reigns of James I. and Charles I. The latter monarch he painted often as Prince of Wales and as Sovereign.

The portrait selected for exhibition this evening is one of the earliest, and it may be noticed how closely the features resemble those of his elder brother, which we have just seen. They both inherit from their mother, Anne of Denmark, the peculiarly heavy chin, which in Prince Henry is more pointed while in Charles I. it is broader, and was so prominent that the king grew the pointed beard with which we are all familiar to hide what became almost a deformity. This peculiar formation of the jaw may be noticed for many generations in the later Stuarts.

This characteristic feature will be readily discerned in the portrait of the king now produced. This is the work of John Hoskins, a miniaturist of great merit, though, perhaps, surpassed by Peter Oliver, and certainly by his pupil, Samuel Cooper. It has been sometimes asserted that there were two miniature painters of this name, as the letters of the signature "J.H." are combined in different ways, but there is no evidence further than this in support of the theory.

Hoskins had two brothers as pupils, Alexander and Samuel Cooper: of the former, the elder brother, not many authentic works can be identified; of the younger brother, Samuel, there fortunately exist enough to prove how much the glory of English art is due to his genius. Walpole, in continuing the paragraph from which I took the text of this discourse, says:—"If his portrait of Cromwell could be so enlarged (that is, by a magnifying glass) I don't know but Vandyke would appear less great by comparison." This portrait of Cromwell is now preserved in the magnificent collection of the Duke of Buccleuch at Montagu House. Walpole continues:—"His works are too many to be enumerated; seven or eight are in Queen Caroline's closet at Kensington; one of them, a head of Monk, is capital, but unfinished. Lord Oxford had a head of Archbishop Sheldon"—this last is still preserved in its old filigree frame at Welbeck.

The head of Monk is now shown upon the screen. It deserves, I think, fully as much praise as that bestowed on the head of Cromwell. Most of the portraits of Monk have a coarse expression like that of a butcher, but beneath the rugged features Cooper has given to the head a determination and a nobility of character which makes this the finest representation of the great General of the Restoration.

The skill of Cooper was confined to the head; his painting of features and of hair cannot be surpassed, but in the hands and general pose of figure he was never at home.

Of his remarkable power in delineating the head the present slide is an admirable example. It is the face of James, Duke of Monmouth, natural son of Charles II., and gives exactly that nameless grace which attracted all hearts to this ill-fated noble in his youth.

Of his father, Charles II., we have here a portrait as flattering as any of that hard-featured monarch can be. It is exceedingly delicate in finish, and in this as in all other examples of Cooper's work the masterly treatment of the hair is particularly distinguishable.

Of his brother and successor, James II., as Duke of York no finer portrait can be found than this. Regular as it is in feature, and at first sight attractive, it yet on examination betrays all the qualities which history tells us united in this most deservedly unpopular of kings. Arrogance weakness, cruelty and sensuality are all portrayed here with a skill as masterly as is the painting of the peruke.

Of the younger sister of the king and the Duke of York, the Princess Elizabeth, who died at Carisbrooke, Cooper has left a pathetic and beautiful picture. She died when 16 but sickness and sorrow have aged her face—the eyes are sunken in their sockets, the nostrils contracted, the lips pinched and pale, the eyelashes and brows have gone, and the figure fallen away. A look of premature old age has so settled upon her features that many will not believe that this can be the face of a young girl, but rather esteem it that of a woman of middle age.

In succession and in contrast with this we can see the figure of one of the most famous beauties of the voluptuous court of Charles II. This is Frances, *La belle Stewart*, of the Grammont Memoirs, who married the Duke of Richmond. Here she is represented in a sort of page's dress, for she was not remarkably particular as to the fashion, quality or quantity of her raiment. Her face and figure are better and more widely known and circulated than those of any other person. For over two centuries they have been seen on the reverse of the copper coinage of the realm in the figure of Britannia, for which she sat as model.

We shall close the series of the works of Cooper with one of the painter Walker, who so often painted Cromwell. This is not inferior to any of those already exhibited, nor do I know any which is its superior; and being highly finished in every part it shows in perfection the great power of this extraordinary man. It is dated in front 1645, and on the back also is scratched by Cooper himself, "Feb. 1644, old stile." This scratching is on the peculiar enamel-like surface which Cooper used as a ground for his work. Up to this date and till the close of the century, all miniatures were painted in body colour or gouache. It was not till after 1700 that ivory was used. The earliest specimen of its use with which I am acquainted is a portrait of herself by Rosalba Carriera, the well-known pastellist. This she painted in 1704, and greatly excited the admiration of Carlo Maratti, the president of the Academy of St. Luke, at Rome, to which body she was in consequence admitted. This miniature is painted in gouache, except in the face and arms, which are painted in transparent tints to show the texture of the ivory—it remained unknown in a cupboard in Rome, and was only described and photographed within the last few years. A replica of the miniature had long remained unidentified in the Cabinet at Windsor, ever since it came into the possession of George III. by the purchase of the collection of Consul Smith, of Venice, who was a great friend of the artist.

No account of miniature painting in this country would be complete without a reference to the greatest master of the art in modern times, Richard Cosway. He was a Devonian, and was born in 1740 To illustrate the qualities of his work I have had slides prepared, by which you will be able to see how thoroughly he deserves the great reputation in which he has always been held.

The first is a small but very delicately finished head of George IV. as Prince Regent. Here, as in all good portraiture from the time of the Greek head artists till now, the treatment of the hair is a sure test of the power of the artist, and Cosway is no exception to this rule. He never relied on force or strong contrast of colour, but entirely on the delicate precision of his drawing, which enabled him to seize the features and to exhibit the character of his sitters. Genuine examples of his work are, as you know, of great value, but he had many pupils and followers without number, whose works are pretentiously put forward under his name, and with many seriously damage the proper estimate of his place in art. Most of the members of the Royal family were painted by him, and you may see in this slide how thoroughly he was a master in the art of painting female beauty, This is the Princess Mary, daughter of George III., who married her first cousin, William, second Duke of Gloucester, and who left her well-known house in Piccadilly to the late Duke of Cambridge.

Princess Sophia, her sister, died unmarried in 1848.

Ozias Humphry, also of Devon, was born in 1742. He painted a miniature of Maria, Duchess of Gloucester, in 1769, when she was just thirty years old.

I must ask your kind indulgence for this very imperfect survey of a great subject. It has been in a large measure an experiment, and I regret that the difficulties of reproduction have caused me to omit half a dozen of the slides which had been prepared. The process of reproduction is one that demands the greatest skill and accuracy, and in some cases there has been slight failure. I would not exhibit any but specimens of the highest class, as my object has been to vindicate for miniature painting a larger appreciation and a higher estimate of the place which may be claimed for the masters of the art. Nor would I encumber this paper by biographical or historical detail, as I wished the miniatures to speak for themselves.

Till now, no means existed by which this result could be obtained. Made, as Hillyard says, to be viewed in the hand, they could never be placed in comparison with the portraits by the great masters which look down upon us from the walls of national galleries or of the ancestral halls where they themselves worked when they lived; but I hope the time will come when by permanent facsimiles in colour, such as you have seen this evening, they will be admitted to take that place which only their size has debarred them from obtaining already.

TRANSVAAL ASSOCIATION OF ARCHITECTS.

A PAPER entitled "Notes on Environment, as affecting Architectural Development," was read before the Transvaal Association of Architects by Mr. J. Waterson (member of the Council)

In the course of it he said :—"By environment, as applied to any period of architectural development, I understand, firstly, the position in the scale of civilisation occupied by any community by whom it is practised and to whose racial, religious and social necessities it is made to minister ; and secondly, the knowledge and use of materials as affected either by local limitations or the sum of technical knowledge and experience possessed by any community. In modern times environment plays a more subordinate part ; the rapid and incessant flow and counterflow of ideas tends to wear away racial distinctions, knowledge is poured into the world's reservoir as fast as acquired and the whole world draws upon it at will ; environment has become chiefly a possible matter of local materials and cost of labour, whilst both as regards design and construction the builders of to-day can draw upon a wealth of experience and example which places them above the restrictions of a local environment, and which is only limited by their capacity to absorb and use it. As regards design, I think this is not an unmixed advantage. I find my justification for this opinion in the fact that the strongest and most successful architects to-day are those who work within the lines of some one style or group of closely-allied styles, and rarely make any attempt to travel outside its architectural limits. They create for themselves, as it were, a personal environment, which, in a sense, is local, and they concentrate themselves upon the development of all that for them it contains."

After dealing with the importance of environment in the development of architecture, and giving details respecting historic styles and methods, followed from the earliest ages to more modern times, Mr. Waterson advanced to the subject of domestic architecture as existing to-day :—"In the hands of the great middle classes domestic architecture has been brought to a very high point, especially in the dwelling-house, on which their interest is naturally concentrated, and it is satisfactory to note that with the increased demand for comfort there has arisen in later years a wider sense of the artistic side of architectural treatment, and a keener appreciation of ethical value of art in creation of the house as a home. So far I think it may be fairly said that wealth in the hands of the middle classes has not treated architecture badly so far as it has treated it at all. But what of the vast wealth which modern conditions are daily piling up under the control of single individuals? Is it too much to hope that a portion of it may before long be dedicated to the science of the oldest and one of the noblest of human arts? If I am asked where I would look for such a development, I reply in the newer countries, in America, and in the group of states daily growing in power and wealth and into self-conscious national life under the British flag. I look for it in those countries in which wealth is most easily acquired without the effacement of the more generous instincts which too often goes with the building-up of large fortunes amidst the competition and stress of older centres, in communities where the interdependence of members is still a manifest factor in progress, and where the legitimate claims of a community on its more highly-endowed or successful members, founded on a healthy sense of communal responsibility, are not neutralised by those of a paralysing poverty. We see something of the kind now manifesting itself in America, where private wealth is daily being dedicated freely to the service of the public in the endowment of institutions intended for the furtherance of the public and national welfare, and the erection of buildings for their use. It is to this spirit that we may, I think, look for the originating of any purely architectural development on a great scale, and in countries where men are less burdened with a sense of convention and tradition, and where in the midst of new conditions—climatic and social—they may be led to attempt and re-attempt, and travelling by the same hard road which has marked the development of every great architectural style, ultimately to achieve results which shall be worthy of a new world.

"Now, Mr Chairman, this brings me to our own position here to-day. Johannesburg has the reputation—the unfortunate reputation—of being a wealthy community where the bulk of the people are millionaires *in esse* and a small residuum are millionaires *in posse*. But really it is a poor community in the sense that it has no great reserve of accumulated capital on which to draw for what I may call the luxuries of national existence, and it will probably be many years yet before it will be in a position to turn a cheerful countenance on expenditure in the form of erecting great works not of a strictly utilitarian character, or even before we emerge from the condition of things in which revenue on capital expenditure is the dominating factor in private architectural works. Some of us have helped to build this city in its primeval state of wood and iron and mud. We are all doing our best to rebuild it to-day in brick, stone and steel. Some of our younger members may even participate in the marble process under some future Augustan governor ; but there is one thing we can all do now. We are, in a sense, pioneers, we are making a road for other men to travel on. I believe in some quarters we are looked upon as a kind of wild legion that never was listed, but we can at least see to it that so far as we are concerned the road is well and solidly made. We can in a way educate the town architecturally by doing good work and preaching good work. Now we can lay a foundation of public knowledge and taste capable of carrying a great architectural future. This is our position, and, rightly considered, it carries with it a considerable responsibility. Johannesburg in the future will be largely inhabited and controlled by men born and educated here, whose knowledge of architecture and that of their children will be gathered chiefly from the works they see around them. It is they who, as the city grows and becomes more and more the intellectual, political and financial centre of South Africa, will be the motive power. It will be largely under their hands by the expenditure of their intelligence, wealth and energy that Johannesburg will become, as it surely will become, one of the great cities of the world, and it is for us to see that their understanding of the art it is our privilege to practise shall be so influenced by the work they see around them that their final buildings shall be in every sense worthy of a great city and a great people."

INSTRUCTION IN ENGINEERING IN EDINBURGH.

THE following evidence was given by Professor T. Hudson-Beare, B.Sc., M.I.C E., before the committee appointed to inquire into the expediency of maintaining the Royal Indian Engineering College :—

I think you are Professor of Engineering at Edinburgh University?—Yes.

Do you think that there would be any difficulty in getting a certain number of men from your university trained in engineering for the Public Works Department of India?—Not if your conditions were favourable and they were known sufficiently long ahead.

How many students of engineering have you in Edinburgh?—This last winter I have had between fifty and sixty going through a regular course.

How long do you keep them there?—If they take a degree, three academic years ; that is either three complete winter sessions or two complete winter sessions and three summer sessions, but practically it runs for three years—that is, if they take a degree. Of course we have a certain number who do not enter for the degree, and who come for shorter periods.

Does that comprise any practical work?—It does comprise work in the laboratories such as the testing of materials, the testing of steam-engines and boilers, and in the electrical laboratory work on dynamos and motors, and, of course, there is always in the summer field work and surveying.

How much field work and surveying do they do?—We have a course beginning in the first week of May, which comes to a conclusion in the first week of July. It runs for about seven or eight weeks.

Is that every year?—Every year, and the work occupies three whole days a week.

Have the men to go through it every year?—No. They can take it again, but it is only compulsory one year. They can take it a second year if they choose, of course, and many men do take it a second year in order to become more familiar with the use of surveying instruments. I might say that all the degrees in Edinburgh University and all the Scotch Universities are under regulations which were laid down by the Universities Commission, and that Commission fixed definite courses for every degree, so many to be attended before a candidate could sit for his various examinations For engineering there are eleven courses appointed, and one of those eleven courses is field work and surveying.

What do the men do after they have completed their university course? Do they go straight to employment or do they go on practical work?—If they have not been pupils before, they generally go as a pupil. I have two classes of students, one being those who have been already pupils and who then come for theoretical instruction Of course, this class of students try to obtain a salaried post as soon as they have finished their university course, but the majority of the students come straight from school, and those at the conclusion of their academic training have to serve as pupils either in shops or with a civil engineer.

Which is the best plan?—I always find the students who have had practical training the most satisfactory to teach. They are more serious in their work, they are older men and know what they want to learn and what they lack, and they are ready to take advantage of the instruction given to them; while the boy who comes straight from school is freed from the restraint of the school rather suddenly, and he is sometimes inclined to kick over the traces and to be idle, unless he is a hard-working lad. It is very difficult at a university to induce such a lad to work seriously.

But apart from that tendency to be idle, do you think it is better for them to learn theoretical work first and then go to practice, or to go to practice first?—That is a very difficult question to answer. With some lads the first system is better than the other, and *vice versâ*. If a lad when he leaves school has not shown much inclination for his books, and he is keen to use his hands, I always think a practical training should come first. But if he has been a very hard-working boy at school and is well up in his mathematics, &c, then it is very often the best for him to come at once and take his training at the University.

About what age do they come to you?—About seventeen or eighteen; never younger than seventeen and more commonly about eighteen. That is, when they come straight from school The others are older, about nineteen to twenty or twenty-one.

Then there would be one class leaving about twenty and the others about twenty-two?—Yes, about those ages.

Have you any notion of the pay or emoluments they expect at first?—It is rather a difficult question to answer. Some are glad even if they only get 50*l*. a year at the start. For example, I have a student now who has served his pupilage with the North British Railway Company, who has not taken a degree, but he has attended classes while serving his pupilage. That is very often done in Scotland. The lectures are from nine to ten in the morning, and pupils thus get an opportunity to attend those lectures and then go on to the office and do their day's work. Thus during the time they are serving their pupilage they get the lecture courses, and then they often take a year in the laboratory. The student that I refer to has now been offered a post in Edinburgh with a civil engineer at 50*l*. a year, and he is glad to get his foot on the ladder. His father is a clergyman. I have had other students who have left me for 100*l*. a year; they think themselves very lucky to get that. That applies entirely to civil engineers. Those going in as draughtsmen or mechanical engineers rarely get more than a couple of pounds a week to start.

And electricians?—As a rule the same.

Are you well equipped for technical electricity?—Yes. I might explain what our arrangements are. At Edinburgh I have only held the chair for two years, and when I was appointed by the Secretary of State for Scotland he drew my attention to the fact that the University was very anxious to collaborate with a technical college on the opposite side of the street, the Heriot-Watt College, which was specially equipped for teaching mechanical and electrical engineering. He was anxious to know before I was appointed if I would fall in with that arrangement, and I told him I should be only too delighted to make use of all the facilities in Edinburgh for training engineers. After my appointment a committee was appointed, and they prepared regulations which have been agreed to, and the two institutions are now working together in the training of engineers. Students can take their degree either in mechanical engineering, or civil engineering, or electrical engineering. All the electrical engineering is taught in the Heriot-Watt College; they have a splendidly equipped electrical laboratory, and they have a very well equipped mechanical laboratory and large workshops. Then in the University we have a very good laboratory for civil engineering work, such as testing materials, hydraulics, friction, and similar experimental work, and also workshops. A student has to attend at least three lecture courses in engineering, and the arrangement is now that those who are going in for civil engineering take all three courses in the University, but they nearly always elect to go to the Heriot-Watt College for an extra course in electrical engineering. All the students make a point of attending really more classes than they absolutely need as a minimum. We are very well equipped in Edinburgh for the training of engineers. We have the two institutions, and the laboratories are better organised than they would be if there was only one. There are three professors, all independent of one another, covering in their lectures, &c, very fully the different branches.

Is there much competition amongst the students for honours?—There are a few who proceed to higher work or higher degrees, but not very many. Most of them are content to get their B.Sc. We have every now and again a student who proceeds to the D.Sc, but that is given on a thesis, and therefore is generally taken after the student has gone to practical work. We gave one last May to a student who had done a very good piece of electrical work in New York. He submitted his thesis and was given his D.Sc.—that is, the degree of Doctor of Science in Engineering. It is only given on a thesis, and there is no examination. It cannot be taken till five years after the B.Sc. examination.

There are only a few who intend to earn their bread by engineering who can do that?—There are not very many. The thesis must show good original work, and we lay stress on that.

Sir A. Rücker: Would that five years necessarily be spent at the University?—No, not at the University. They leave us generally directly they have got their B.Sc., except when they hold a scholarship, when they sometimes remain on for a year or longer with the special intention of eventually taking the D.Sc.

What are the university fees?—About 10 to 15 guineas, and these are the fees for all the lectures and laboratory work.

For the year?—For one winter. The fees in Scotland are very, very low. For a full course of lectures in my senior class for the whole winter the fee is four guineas, and that covers the lectures and four hours a week of laboratory work.

Sir J. Mackay: Is that because you are well endowed?—It is partly that, I imagine, and partly because of the old tradition of the Scotch universities that they are not meant for the moneyed classes, but for those who have got to make their way in the world Then, in addition to that, many of the students have their fees paid by the Carnegie Trust. I believe nearly half of those attending Edinburgh University have some or all of their fees paid in that way.

Whether they are well off or not?—I do not think there is any inquiry as to that if a student fulfils the conditions; that is, he must pass his preliminary examination or matriculation examination as it is called in England, and he must be over sixteen years of age and of Scottish birth or extraction, or must have given two years attendance after the age of fourteen at a school or institution under inspection of the Scotch Education Department.

Does that increase the number of students?—It has a slight tendency to, but not very much I think.

Chairman: There has hardly been time to tell yet?—No. It has only been in force two winters, but it has induced students to take up more classes than they otherwise would do. Before then the students took up merely the minimum number of classes for their degree as laid down by the Commission, but now we find that students are more prone to take up some outside class often very useful for them.

They can afford it now?—Yes, they can afford it now.

Sir A. Rücker: From what classes are the students drawn?—Mostly from the professional classes.

Sir T. Higham: Is the preliminary examination what corresponds to the matriculation here?—Yes. It is a common one for all the Scotch universities held by a joint Board, and a student cannot get his fees paid by the Carnegie Trust unless he has passed this examination. That is the advantage of it. I might perhaps at this point say that two or three times I have had students working under me who are in the Indian service and who are on furlough, and they came to do advanced work. For example, a young engineer who had been seven years in Burma on irrigation work, a Coopers Hill man, came to me for a winter's course last winter in advanced work during his furlough, and two years before leaving London I had a young officer in the Royal Engineers who came to take advanced laboratory work during his furlough.

Chairman: Do you think we could count on getting four or five men a year from the Edinburgh University?—I feel confident you could if it was known sufficiently far ahead, because parents who have no direct engineering connection find it very difficult to secure a start for their sons in civil engineering after they have finished their course. In mechanical engineering that difficulty does not often arise, because if they go to the works after their course when their pupilage is up, the firm nearly always employs the student, and knowing his value to them, they give him a small wage. The same thing applies to electrical engineering. But in a civil engineering office it does not at all follow that he can get work there at the close of his term as a pupil, and he gets out of touch with it when he has to leave the firm, and he finds it difficult to get a start again. Therefore parents are very often reluctant to train their sons as civil engineers from that cause. Then the heavy pupilage fees are a difficulty.

They are very large, are they?—Yes.

How much?—100*l*. a year for a pupilage. Most of them pay that annually for two or three years.

Sir J. Mackay: After they have left college?—Yes. I would suggest, if the India Office proposes to carry out this scheme of drawing upon the universities, that they should offer to pay the premiums of the students selected.

Chairman: That is for the practical course?—Yes. I presume you would insist on them serving a pupilage of some length, and I suggest that the India Office should pay that if they had satisfactory reports as to their conduct and progress.

Sir J. Mackay: Are you acquainted with the course of instruction at Coopers Hill?—To a slight extent. That is, I have been examiner for the last two years in one subject—the theory of structures.

Chairman: In the case of a man who goes through his three years' course at Coopers Hill, would he be able to take a degree at Edinburgh University?—I do not think their technical examinations are quite as stiff as ours. There is not very much difference between them, but they are not quite as stiff.

They are no stiffer?—No, they are certainly no stiffer; and I think on the whole they are not quite so stiff.

Then you say that a good many of your students have been engaged in practical work before coming to you?—Yes.

Those are men or boys anxious to get on in the world?—Yes.

And they are naturally steadier?—Yes.

In what sort of practical work is it?—Mostly mechanical. It is not very often that a lad comes to me after being a pupil in a civil engineer's office in that branch. He generally takes his theoretical training first.

So I understood.—In fact, a leading engineer will not take a young fellow as pupil unless he has been through a course in college. Sir John Wolfe Barry, for instance, makes it a rule that they must take their university training first.

Then the salary given by the Public Works Department in India is practically about 300*l.* a year sterling to a young man of about twenty-two, and do you think that would attract the men?—I think it would distinctly. But of course one has to remember that 3 0*l.* a year in India is not the same as 300*l.* a year in this country. I am not sufficiently acquainted with Indian affairs to say what the relative value is. I suppose it is not more than about two-thirds—300*l.* would not be worth more than 200*l.* here I imagine.

Sir J. Mackay: What was your experience before you went to Edinburgh?—I was Professor at University College in London for twelve years before then, and my first training as an engineer was in Australia. I was in one of the Australian Government railway departments.

What was your original training?—Partly in railway work in Australia and partly in mechanical engineering in England. I am an Australian.

Have you had practical experience as well as theoretical?—I practise as an engineer now and have done so for several years, that is, as consulting engineer.

Sir Arthur Rücker: You have had a good deal of experience outside Edinburgh, have you?—Yes.

You have been a professor in London?—Yes.

You have examined in many colleges?—Yes

You know a good deal about the City and Guilds Institute?—Yes.

And is your general impression that, putting Coopers Hill aside, a considerable number of engineers could be obtained annually from Edinburgh and other places if the Government wanted them?—I feel confident of that.

From your experience as examiner at Coopers Hill, do you know of anything that is special there as a preparation for India?—No, except perhaps keeping accounts. That is perhaps a special course.

But that has not come under your knowledge at all?—No. But as far as the technical engineering training is concerned, it is identical with that carried on at all these other colleges—exactly identical. That is, they have laboratory instruction and field work, and drawing-office instruction and lectures on the various branches of engineering work.

Sir J. Mackay: I think we have been told that there is a good deal more attention paid to surveying at Coopers Hill than at the other places. Do you know whether that is the case?—I do not know what the length of the course is at Coopers Hill.

Do you consider that the training a man gets at Edinburgh qualifies him to do surveying properly?—He would not be able at once to do a very difficult job. He would probably require further training before being fit to undertake it if it was a difficult piece of technical work.

Can he get that anywhere except in the field in actual work?—No, but he gets it now when serving his time as a pupil. He is sent out for the first two or three weeks with another engineer until he is found to be able to stand on his own legs.

He gets that after he leaves the university?—Yes. But when he leaves the university he is not a raw lad, and he knows the instruments and he knows the difficulties likely to be met with.

He knows a theodolite when he sees it?—Yes. He knows how to keep his field book properly, which is the great point.

Chairman: But he could not be trusted to make a survey himself?—No, and you could not expect it, bearing in mind the time devoted to it.

You have examined at Coopers Hill for two years, have you?—Yes.

Do you think the average ability at Coopers Hill is as good as the average ability of the first twenty of your class?—I think if you take the top men there is nothing to choose; but my impression, formed last year, was that there were rather more at Coopers Hill who are below the average standard than there are at Edinburgh. But as to the top men, I should say there is no difference at all, They are quite as good. I have examined now for Owens College, Manchester, and University College, Liverpool, and London University, and in all the English engineering schools, in fact, except Cambridge.

You say that, taking them all round, the top men at Coopers Hill are quite as good?—Quite so. They are not any better or any worse than the top men in other institutions of a similar character, but I did form the impression last year that there were more under the average.

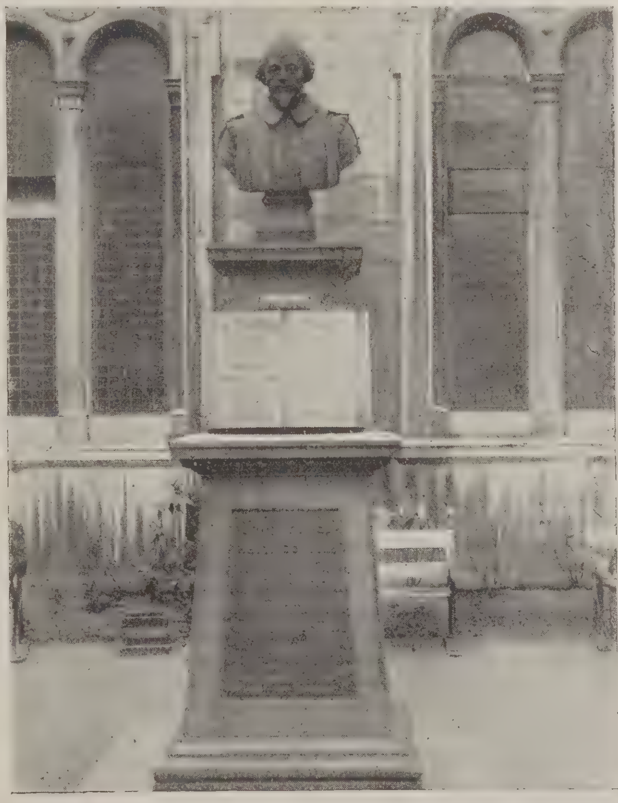
A worse tail?—A worse tail.

Sir Arthur Rücker: That is at Coopers Hill?—Yes, at Coopers Hill.

Would you say the class of men at Coopers Hill is superior to what you get in Edinburgh?—I do not think so. I have had men who have gone from me when in London to Coopers Hill, and I have come across other Coopers Hill men, and I should say they are very much the same stamp of men.

TWO LONDON COMPANIES.

ST. GEORGE'S DAY falling upon a Saturday, it was selected for the fourth winter ramble of the members of the Upper Norwood Athenæum, and under the guidance of Mr. James J. Dixon, visits were paid to the Girdlers' Hall and to the Parish Clerks' Hall. The fortunate coincidence of the neglected national festival with the birth and death of the nation's greatest genius, William Shakespeare, suggested also a visit to the church of St. Mary, Aldermanbury. A feeling of satisfaction that the threatened destruction of the church had been averted was general, and it was hoped that Wren's beautiful building would remain untouched. But the interest of the occasion resided in the monument, surmounted by a bust of the immortal Bard of Avon, erected by a Shropshire gentleman, Mr. Charles Clement Walker, to perpetuate the priceless boon conferred upon intellectual humanity by John Heminge and Henry Condell, in the collection and publication, and therefore the preservation, of the First Folio of Shakespeare's writings, in 1623. "We have collected them and done an office to the dead, without ambition either of selfe profit or fame; onely to keepe the memory of so worthy a friend and fellow alive, as was our Shakespeare" These words, reproduced in a facsimile in stone on the monument, of the First Folio, serve as the introduction to that volume by these two faithful friends of the poet. John Heminge lived in the parish over forty-two years, was married and buried here, had fourteen children, thirteen of whom were baptized, four buried and one married in the parish. Henry Condell lived in the parish



Heminge and Condell Memorial.

upwards of thirty years, had nine children, eight of whom were baptized and six buried here, and was also buried here himself.

At the Girdlers' Hall the members and friends were met by Mr. W. D. Smythe, the clerk to the company, who showed them its treasures, including the beautiful carpet now enclosed in a glass frame and hanging on the wall over the high table, and presented by Robert Bell "as a remembrance of his love" The curious thirteenth-century headpiece, with which the clerk of the company "crowns" the new master at the annual election, and the less elaborate caps worn by the minor officials, were exhibited, and the last mulberry tree left in the City and one of the few fig trees left were examined with interest.

At the Parish Clerks' Hall a pleasant surprise awaited the visitors. The master, Mr. William J. Smith, who was admitted in 1863, has been three times master, and is also the father of the company, was present to receive the members, supported by the wardens and the clerk, Mr. James Vincent. Mr. Deputy White, a member of the Court and a keen antiquary, read an interesting historical sketch of the Parish Clerks' Company, which was very highly appreciated

At the evening meeting the chairman, Mr. W. F. Potter, presided, and Mr. James J. Dixon read his paper on

The Livery Companies.

In connection with the City companies the word livery is derived from liberatus, applied originally to the custom which prevailed under the Merovingian and Carlovingian kings of "delivering splendid habits" to the members of their households on great festivals. In ancient times the wearing of livery was not, as now, confined to domestic servants; it was worn by the duke's son as page to the prince, who wore the prince's livery; further down the social scale the son of the gentleman wore the livery of the esquire, whilst cavaliers wore the livery of their mistresses. Many of the more important nobles had armed retainers in their respective liveries; thus by the colour and badge worn by the retainer was known the master whom they served. The colour of the costumes was taken from the armorial bearings. The freemen of the guilds or corporations which embraced the different trades of London are called liverymen, as they are entitled to wear the livery of their respective companies. The lord mayor, sheriffs and high officers of the Corporation are elected by the vote of the livery, and they also have the privilege of voting for the masters of their respective guilds. They also possess a Parliamentary vote for the City. Until the passing of the Reform Act of 1832 they had the exclusive right of voting for members of Parliament for the City. The membership of the Parish Clerks' Company is singular in not admitting of these privileges. Many of the City livery companies are possessed of great wealth. Of their corporate property they are the sole owners, and may dispose of the income as they please; of some portion of the property, however, they are merely trustees, and render periodical accounts to the Charity Commissioners. Fifteen of the companies possess more than 10,000*l.* per annum. Some of them are very liberal in their charities.

The Girdlers' Company.

This company seems to have owed its origin to a lay brotherhood of the Order of St. Lawrence, maintaining themselves by the making of girdles and voluntarily associating for the purpose of mutual practice and for the regulations of their trade. These regulations extended to the power of seeking for bad work, and when found of having it burnt. Instances are on record of the exercise of the right of search and of the imposition of fines upon the delinquents.

The subsequent disuse of the girdle, which was formerly an important article of costume, has made the trade obsolete as a separate craft for the last two centuries.

The present hall was built in 1681. The company was incorporated by Letters Patent 1st Edward III, March 10, 1327, confirmed 1st Richard II., in 1377, reconfirmed by 27th Henry VI., August 6, 1449, and again confirmed in 2nd Edward IV., in 1462.

The Pinners and Wire Workers were incorporated with it in 10th Elizabeth, October 12, 1568, and re-incorporated by 15th Charles I., October 17, 1639. Upon the surrender of the charters to James II. to be granted a new one, December 19, 1685, this was annulled and the company reverted to the previous one, which was confirmed upon the accession of William and Mary, May 30, 1682. Freemen of the Guild are eligible for pensions and for admission to the almshouses, liverymen being eligible to election on the Court. An important and valuable document is in possession of the company bearing date 1464, by which Edward IV. confirmed the privileges granted to them by Edward III. and Richard II.

A curious old custom is still maintained, the Coronation of the Master and Wardens, which ceremony takes place every year and is performed by the clerk amid a "veritable flourish of trumpets," and at the conclusion of the function, the newly-crowned Master pledges the assembled company in a goblet of Rhenish wine. The famous Indian carpet presented by Mr. Robert Bell in the year 1634, and valued at 5,000*l.*, was made at the Royal Factory at Lahore established by Akbar the Great. It is about 8 yards long and 2½ yards broad, and bears the company's arms, namely, St. Lawrence on the gridiron, holding a Bible in his right hand and a gridiron in his left, underneath being a scroll with the Girdlers' motto, "Give thanks to God." Flanked right and left are Mr. Bell's arms, namely, azure, an eagle, displayed argent, in chief three fleurs-de-lys, and introduced between these and the company's arms are two bales of merchandise, stamped with Mr. Bell's initials and trade marks. The carpet luckily escaped the Great Fire, when the hall was burnt down, from which it would almost appear that the person in charge of the hall understood its great value, though for many years past it lay on one of the company's tables, where no one suspected its worth. A few years ago the Court decided to inquire into the history of the carpet. Mr. St. John Hope, M.A., F.S.A., and Sir C. Purdon Clarke, K.C., I.E., of the South Kensington Museum, kindly placed themselves at the disposal of the company, and advised that it should be cleaned, repaired and framed. It was taken to the South Kensington Museum, when the inkstains were removed and the rents repaired by the Decorative Needlework Society, and it was subsequently placed in a large oak frame appropriately carved by Miss B. Campbell, in a style to correspond with the mouldings in the hall, and bearing this inscription:—"The Gift of Robert Bell, Master, A.D. 1634. In Remembrance of his Love" It now occupies the place of honour at the back of the Master's chair. Only recently Lord Curzon presented a beautifully executed replica to the Indian Museum at Calcutta.

The almshouses of the company are at Peckham Its arms are per fess azure, or, a pale, counterchanged and three gridirons. Crest, a demi-man proper, representing St. Lawrence, with a glory around his head, or, issuing out of clouds, girt round the body with a girdle, holding in the dexter hand a gridiron and in the sinister a book. Motto, "Give thanks to God."

Parish Clerks' Company.

This company was incorporated in the 17th Henry III. 1232, by the name of "The Fraternity of St. Nicholas" It was dissolved by Henry VIII, who confiscated its property, but was re-incorporated by charter in the 8th James I, January 1611, and confirmed in the 12th Charles I., 1636. There are apparently only two other companies who were granted charters prior to this Guild, namely, the Weavers in 1184, and the Fletchers, incorporated in the reign of John, 1199-1216.

The Fraternity of the Parish Clerks of the City of London, Westminster, borough of Southwark and fifteen other parishes published weekly the bills of mortality, showing the number of christenings, and recording deaths, casualties, &c. They were granted permission by the charter of Charles I. to keep a printing-press in their common hall and to have a printer, who was to be appointed by the Archbishop of Canterbury. This continued until 1837, when the duty was taken over by the Registrar-General's office at Somerset House. It was formerly the custom of the parish clerks to attend great funerals, "going before the hearse and singing, with their surplices over their arms till they arrived at the church." In very early times they used "to play some large history of Holy Scripture," being their miracle or mystery plays, near the well of the Priory of St. John, Clerkenwell, from which the name of the parish is said to have been derived. In 1390 they played before Richard II., and again in 1409 before Henry IV. Hughson describes the public festivals they celebrated, with music and singing, during the sixteenth century.

The first hall of the company was in Bishopsgate Street at the sign of the Angel, with almshouses for seven widows attached. The company afterwards removed to Broad Lane, Vintry, where they remained until the Fire of London in 1666. The present hall is situated at 24 Silver Street, Wood Street, the land on which it stands having been purchased on April 27, 1669, for the sum of 140*l.* The first meeting in the hall was held on February 3, 1671.

In 1706 an office was built for the clerk at the north-east corner. In 1765 the hall was seriously damaged by fire, and whilst the repairs were being effected the company met at the George coffee-house, Aldermanbury. In the year 1815 there was another narrow escape from a fire which originated at the Bell inn, Wood Street.

In 1829 a plot of land known as the Worth or Ox Mead, at Lambeth, was purchased by the company, by voluntary subscription, for the purpose of erecting almshouses for widows of parish clerks.

The affairs of the company are managed by a master, two wardens and twelve assistants.

The Bede Roll of the company is contained in a folio volume 20½ inches long by 11½ inches broad, now carefully rebound. It consists of sixty leaves or half-leaves of parchment, and on these are inscribed in beautiful Gothic letters, with, in most cases, ornamental headings, the names of the masters for the year, of members admitted during the year and members whose deaths were reported. The volume was probably begun in 1449, immediately after the amended charter was obtained. The funeral pall was made in the year 1637; it is of black velvet and cloth of tissue, embroidered with black silk and gold fringe. It was last used in 1860 at the funeral of Mr. Warren, father of the company.

In the year 1644 the plate of the company was sold, and no doubt great efforts were made by succeeding members to make up somewhat for the loss. In 1697 Richard Clark presented the company with a silver paten, and in 1702 Brother James Plasted presented a beadle's staff headed with silver, with the company's arms thereon. In 1704 Benjamin Payne, clerk of St. Andrew by the Wardrobe, presented a silver snuff box, which was in 1828 regilded by William Cooper. In 1714 Mrs. Mott, then printer to the company, presented two volumes of the Ecclesiastical Parochial History of London, and in 1789 Mrs. Ayscough, of St. Giles, gave a silver-mounted staff to be made use of in the processions. There have also been numerous other presentations to the company; in the year 1879 by Mr. Richard Perkins, who give a silver badge of office to be worn by the Master, and with which each successive Master was to be invested. In the year 1893 Mr. J. G. White presented for the use of the Master at Court meetings a handsome Gothic oak writing-desk.

The arms granted March 30, 1582, and confirmed in 1634, are:—The field azure, a fleur-de-lis, or, on a chief gules a leopard's head between two song-books (closed) of the second, the laces that bind the books vert; and the crest, an arm from the elbow upwards, holding an open song-book. The motto is, "Unitas Societatis Stabilitas."

I have to express my indebtedness for valuable information obtained from the following works:—"The Citizen's Pocket Chronicle," 1827, Walter Thornbury's "Old and New London," Hughson's "London," and "Some Account of Parish Clerks," by James Christie. Also my best thanks to Mr. W. D. Smythe, clerk of the Worshipful Company of Girdlers, and to Mr. J. G. B. Elliott, past master of the Parish Clerks' Company, for assistance in the preparation of this paper.

MODERN ROME.

An article appears in the *Morning Post* by Mr. Frank Hird, in which he says:—

When Rome became the capital of Italy there were meadows and vineyards close to the gates, and the superb gardens of the Ludovisi Villa within the walls on the north-east of the city. To-day the meadows and vineyards on the Vatican side of the Tiber have disappeared, and in their place is a small world of villas, so fantastic and so varied in architecture as to suggest that the models were taken from the Rue des Nations at the Paris Exhibition; and the Ludovisi gardens are covered by broad streets cutting each other rectangularly, with lofty houses and the general appearance of having been transported bodily from a German residenzstadt. Close to the fantastic villas, which represent Roman suburbanism as do Balham and the Tootings that of London, are the streets of half-finished houses which were run up hastily during the building fever that followed the occupation to provide for the great influx of population, confidently prophesied and never fulfilled. Zola has described the palaces built for nobles who never occupied them, the great blocks of houses which were to be inhabited by the wealthy merchants and a prospering middle class, crumbling in unsightly and depressing ruin. But these are now being occupied gradually, chiefly by the poorer classes, after being the haunt and shelter of beggars for nearly twenty years. The banks into whose possession they passed at the general bankruptcy among the building speculators, finding that these houses continued to represent idle capital, have been completing them slowly. Many half-finished houses still remain roofless and with gaunt windows, one such street being close to the walls of the Vatican garden; but Zola's description of the quarter no longer holds good in its entirety.

Through the demolitions in various parts of the city rents in the older quarters have risen to such an extent that there have been deputations from the working classes to the municipality to protest, and a suggestion has even been made that the Government should legislate with regard to the workman's rent as it has already legislated for the regulation of the price of his bread. This increase of rent, which the working classes cannot possibly support, has led to the gradual population of the formerly desolate region beyond the Tiber, known as the Prati, and new districts outside the southern gates where there is certainly more air and more sunshine than in the city proper, and where there are larger rooms for the poor and at less expense. But apart from the cause of rent there is a general tendency outwards from the centre, from the dark, narrow streets of Old Rome, where there are no footways, and where cabs, carriages, carts and pedestrians escape constant collision by miracles, and where the lower floors of the grim houses never get the sun, to the wide boulevards with their trees and pavements of the new quarters, and to the blocks of buildings that are rising outside nearly every gate of the city. The upper classes show the same tendency, and the villas built outside the Porta Pia and on the outer confines of the Ludovisi quarter are occupied for the most part by people who ten or fifteen years ago would have been placed at daily social inconvenience if they had lived without the walls.

And yet the increase of dwellings, both within and without the boundaries of the city, has not brought an increasing amount to the income of the municipality. It was Depretis who first advocated the extension and embellishment of Rome that it might be more worthy of its position as the capital of Italy. Certain works were undertaken by the Government, certain works by the municipality, and the latter, after some years, found itself in difficulties and with a heavy load of debt. As this debt had been incurred solely because Rome was the capital, the Government came to the assistance of the municipality and made it a yearly grant, taking in return the whole of the *dazio*—the tax paid on all food entering the city. But since that time Rome has again increased, and more burdens are laid on the municipality, with the result that when the interest on the borrowed millions, the expense of public health and sanitation—this alone swallows up a considerable portion of the sum from the Government—lighting, &c., are paid, there is practically nothing left. The increase of the population naturally means an increase in the *dazio*, but the municipality does not benefit, and at the same time the growth of new streets and quarters adds enormously to its working expenses. History, therefore, is repeating itself, and the Government and the municipality are once more considering the subject of further assistance from the national exchequer, or a rearrangement of the existing position between them. Rome has no manufactures. It is purely a residential city, and is a capital without the resources that the capitals of great European countries possess. The fact that it is the seat of government throws heavy and additional charges of maintenance on the municipality, which by the present arrangement has to meet yearly increasing charges out of a fixed income. It is for this reason that many of the municipal works are still incomplete, such as the half-demolished houses by the Tiber opposite St. Angelo which mark the last remains of the old Ghetto, and that the hideous iron bridge over which the electric trams run to St. Peter's still remains an unsightly blot. There are those who deplore the great stone embankments which stretch in white lines along either side of the Tiber, but they are undoubtedly the guardians of the health of Rome, the fevers that spread through the city after the almost annual inundations of the river into the lower lying districts being now unknown. British people are apt to be loud in their lamentations over the changes that are yearly taking place in the Eternal City. There has certainly been much wanton destruction; but an Italian lady put the matter in a nutshell when she asked a British lady who was complaining of the new quarters and the swift disappearance of picturesqueness from the city, "Madam, does Rome exist for the tourist or for the Italians?" Rome has no manufactures, but it has an industry, and that is the tourist.

Rome is the most cosmopolitan of European cities, but it still retains many of the attributes of provincialism. It is a capital, but it is not metropolitan. It is therefore a city of contradictions, and by reason of its size the contradiction between the old and the new stands cut in sharp distinction. There are electric trams in nearly every quarter, but the lines are so badly laid that in some streets they stand from half an inch to an inch above the level of the roadway, with unfortunate results for the vehicular traffic. The electric trams represent the new spirit; the method of laying the lines represents the old.

It is unfortunate that in their building undertakings the modern Romans should have shown themselves lacking in the least particle of the taste which animated their ancestors. A goliath Palace of Justice has been built beyond the Tiber, close to the castle of St. Angelo. It is still partially surrounded by scaffold poles, though the foundations were laid many years ago. The finished outer walls show heavy windows with obese columns at either side, surmounted by carved wreaths of fruit that in the distance give the effect of strings of sausages. The general appearance is ponderous and ineffective and looks like an attempt after simplicity that has failed, only yielding pretentiousness. The colossal monument to King Victor Emanuel II. on the Capitol, which is absorbing millions of lire, is more worthy of the architectural traditions of Rome. A palace and many houses have been swept away in the Piazza di Venezia that the monument may directly face the Corso and that an uninterrupted view may be obtained of it. The pedestal is not yet completed, but as far as it has gone it seems severe and majestic. Another decade will in all probability pass before the monument, which is to be surmounted by an equestrian statue of the first King of United Italy, is completed. It stands now as another example of the fatal facility of the Italian authorities for embarking on expensive works before they have the means to carry them out. Big schemes are undertaken, houses are demolished, the work is begun, funds run low, and then the operations are abandoned, to remain with their surrounding half-destroyed houses, perhaps for years. In the meantime other schemes are undertaken which naturally share the same fate. At the present moment in Rome, in addition to the Palace of Justice, around which the scaffolding has grown grey with age, there are two partially-completed works that are eyesores—the Victor Emanuel monument and the entrances to the tunnel under the Quirinal Hill which connects two important thoroughfares of the city. They are surrounded by hoardings and the gaping walls of half-torn-down houses, and besides these there are the remains of the confines of the Ghetto mentioned above, which have stood undisturbed and hideous by the Tiber for the last ten years. Opposed to this the cleanliness of the streets is an example to many an English city, and to London especially, and the public gardens—the Pincio, the Villa Borghese and the Janiculum—could not be more perfectly maintained, swept and garnished. Even to-day the Italians as a nation have not learnt the necessity of hastening slowly. Rome is the most alluring capital in Europe, but though it does exist for the Italians they are rapidly destroying its charm by recklessly embarking on "improvements" before counting the cost.

Correspondence

[*The Editor does not hold himself responsible for opinions expressed by the writers.*]

The Dangers of Legislative Experiments.

Sir,—In 1897 Parliament passed an Act with the avowed object of trying for three years as an experiment in one county in England a new system of official conveyancing.

The Act came into force in London on January 1, 1899. Since the three years' trial came to an end on December 31, 1901, the authorities have evaded every effort that has been made to induce them to hold the public inquiry into the working of the system which it was understood would then follow. The breakdown of the system has been so pronounced that the officials found it essential on January 1 of this year to supersede the previous rules and to bring into operation a new set numbering together 371 and 372 forms. In enacting these rules the authorities have certainly strained violently the words of the Act. Rules were to be made by the Lord Chancellor "with the advice and assistance" of a rule committee, but they have been brought into operation notwithstanding the fact that the committee declined to sanction them.

With the view of calling public attention to the matter, Mr. J. Bamford Slack, M.P., desired to ask in the House of Commons whether or not it was the fact that the rules have been issued notwithstanding their disapproval by the rule committee. He has not, however, I understand, been allowed to ask this question on the ground that it is against the rules of the House to allow any question with regard to anything done or left undone by the Lord Chancellor. Some of the results of the experiment sanctioned by Parliament can in this case be thus summarised:—

1. The system of conveyancing in the county of London differs now from every other part of the country, and has apparently been fastened on to London for all time without it being possible to ascertain by an independent inquiry whether the system is or is not working satisfactorily. Every attempt made to induce other counties in England to adopt the system has signally failed.

2. The new system is the laughing-stock of every expert, and is condemned by every one who has had experience of it. The extent to which it embarrasses and increases by heavy registration fees the expenses of property transactions in London is a grievous burden on property owners, and has led to a demand for a public inquiry from every representative body interested in property—a demand which the authorities find safety in ignoring.

3. The sum of 265,000*l.* public money is being spent in the erection of a permanent building to house the officials, 200 or more in number, who are at present engaged in unwinding the extravagant quantity of red tape required by the system.

4. The new rules, although made without Parliamentary consideration or the sanction of the rule committee, give the Registrar almost a free hand to issue titles carrying with them a State guarantee—a guarantee that may hereafter involve the expenditure of public funds that may run into millions.

5. Notwithstanding the public responsibilities and interests involved, a question on the subject cannot be asked in the House because, forsooth, it is against the rules to ask any question with regard to anything done or left undone by the Lord Chancellor. And yet we boast that we are governed constitutionally.

The proverbial ell that is taken when an inch is given sinks into utter insignificance in comparison with the measure that has in this instance been appropriated for the inch given by the Act of 1897.—I am, sir, your obedient servant,

J. S. Rubinstein.

5 Raymond Buildings, Gray's Inn,
London, W.C.: May 24, 1904.

GENERAL.

The Stockton-on-Tees Corporation have presented the freedom of the borough to Alderman Richard Hind, "father" of the Corporation and Warden of the Worshipful Company of Plumbers.

A Fête is to be held at Saint-Quentin, France, to celebrate the second centenary of the famous pastellist, Maurice Quentin de la Tour. M. Roujon, the permanent secretary of the Académie des Beaux-Arts, is president of the committee.

At a Meeting of medical officers of health at Winsley Sanatorium, near Bath, Dr. Lionel Weatherley, the chairman of the executive committee, claimed that Winsley Sanatorium, which is for the counties of Somerset, Gloucester and Wilts, is the cheapest ever built in England or in any other country.

The Queen Alexandra Sanatorium, to be erected at Davos, for which funds are solicited, will be erected on a site of about five acres, situated 300 feet higher than Davos, and 5,400 feet above sea-level, sheltered from north and east, and with an exceptional degree of sunshine. It is hoped that the cost will not exceed 300*l* per bed.

Mdme. Emile Zola has placed a monument on the grave of M. Zola at the cemetery of Montmartre. It is the work of M. Frantz Jourdain, the architect, and is in red porphyry. The bust was carved by M. Zolari, a lifelong friend of the novelist.

The Liverpool Corporation library, museum and arts committee have recommended the appointment of Mr Carew Martin as curator of the Liverpool Art Gallery, to succeed Mr. Charles Dyall, retired. Mr. Martin has for some years been curator and secretary of the Royal Society of British Artists.

A Water-Colour Drawing, by Viollet-le-Duc, formerly in the collection of the late Princesse Mathilde, was sold at an auction in Paris for 95 francs. The title was *Souvenir d'Italie.*

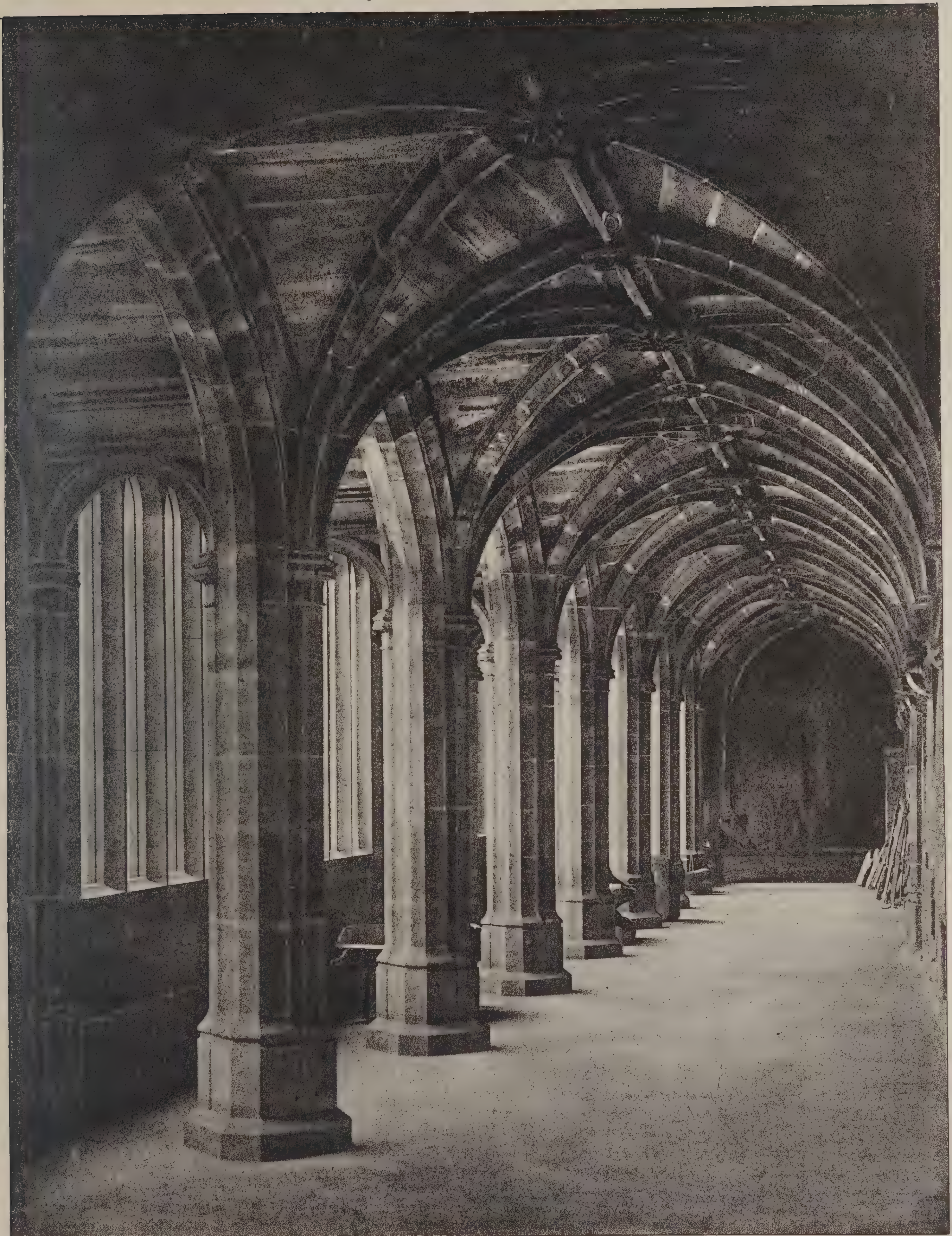
At Truro last week an anonymous gift of west windows for the nave of the cathedral, two lights in the north aisle in memory of Mr. Hawkins, by his widow, and of several statues and other sculpture for the west porch were announced.

The Society of Antiquaries passed a resolution on the 19th inst. expressing "surprise and regret that the Town Council of Berwick-upon-Tweed has in contemplation the destruction of some of the remains of the Edwardian walls of the town, for the apparently quite inadequate purpose of erecting ordinary dwelling-houses. The Society cannot contemplate with anything but dismay the destruction of national landmarks of such unusual historical importance, and would urge upon the Town Council to give the matter further consideration."

The Trustees of the British Museum have appointed Mr. G. F. Warner as Keeper of Manuscripts and Mr. Cecil Harcourt Smith as Keeper of Greek and Roman Antiquities.

The Completion of the Simplon Tunnel will, it is stated, be delayed a further six months on account of the presence of hot springs yielding 25 litres a second. The two borings have almost met. The entire length of the tunnel will be 19,729 metres, and less than 800 metres remain to be excavated. The present average rate of progress is 290 metres a month.

Mr. Akers-Douglas, M.P., has given the following written reply to Mr. Tennant, M.P., in the House of Commons:—"I have considered the Bill which the hon. member has introduced to amend the law relating to the provision of means of escape from fire in factories and workshops; but, while I recognise that it is an attempt to deal with a matter of importance which stands in need of some remedy, I do not think that the Bill is one which the House could be recommended to accept without very full investigation and discussion. In particular, the danger from fire is not peculiarly a factory question, and I do not think that the matter could be satisfactorily dealt with unless there was also brought into consideration the case of other lofty buildings where considerable numbers of persons are gathered together. The whole question is, perhaps, one for investigation by a select committee of the House; and if the hon. member were to move for the appointment of such a committee and could agree with me as to the terms of reference, I should not oppose the proposal."



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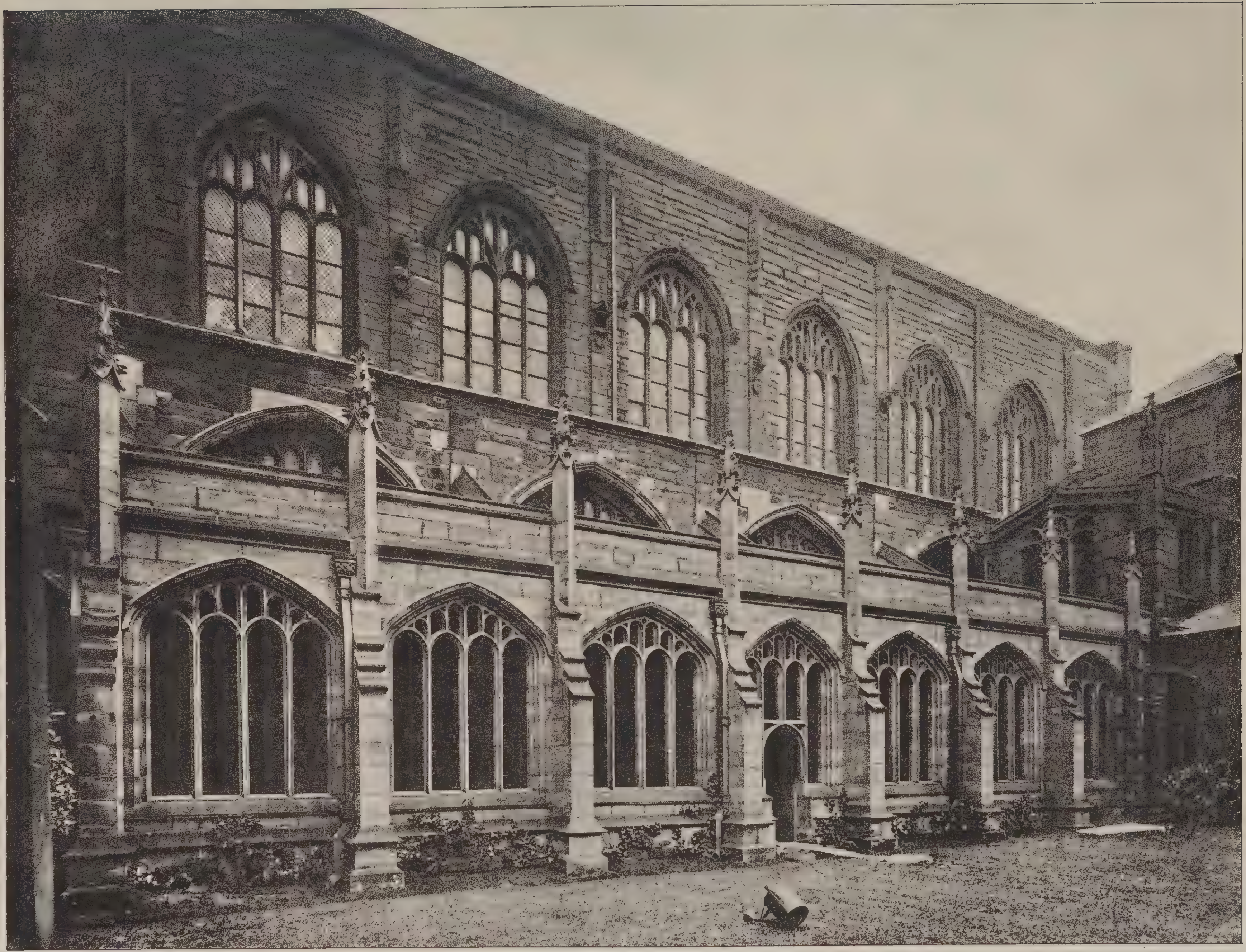

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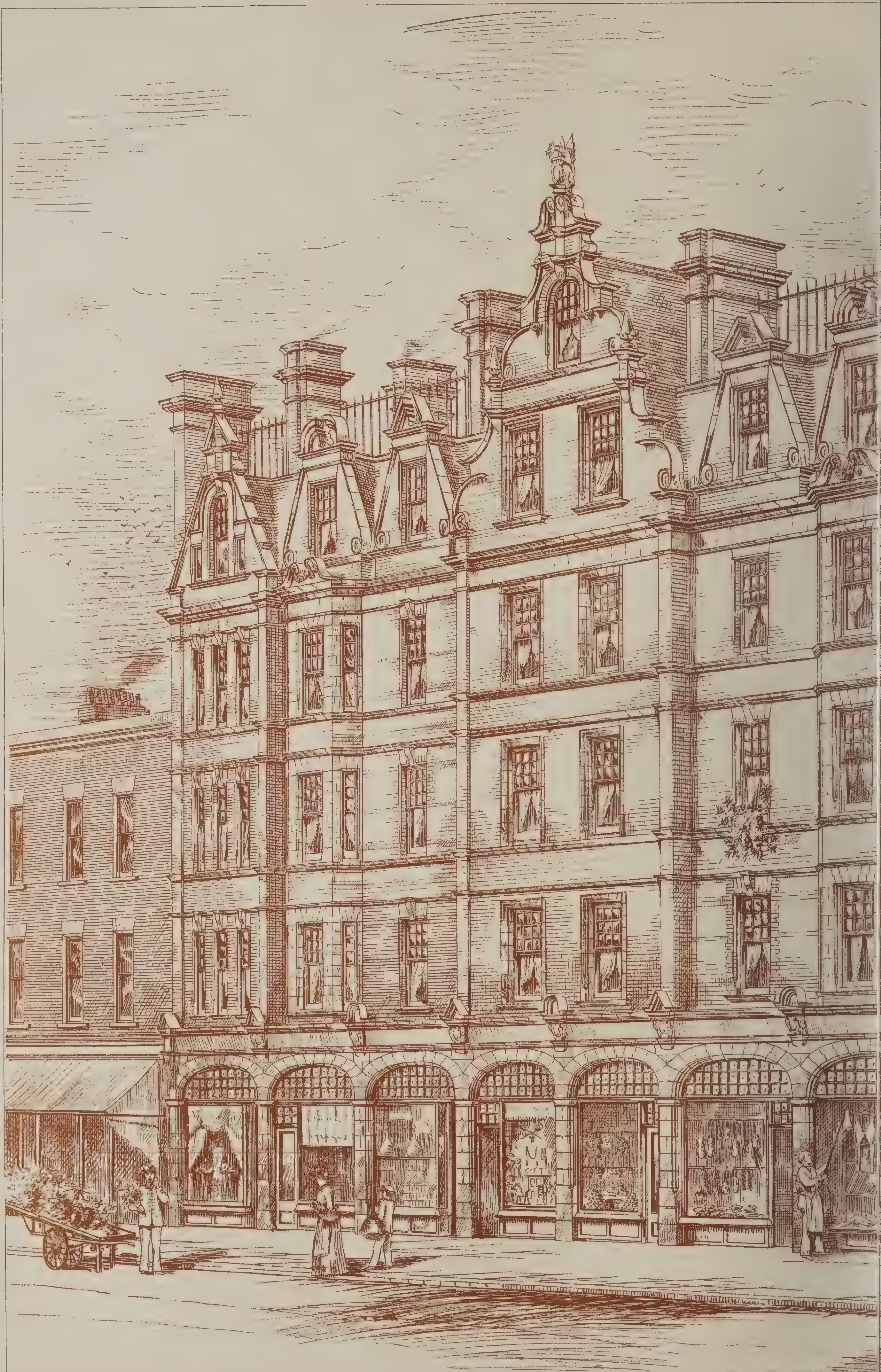
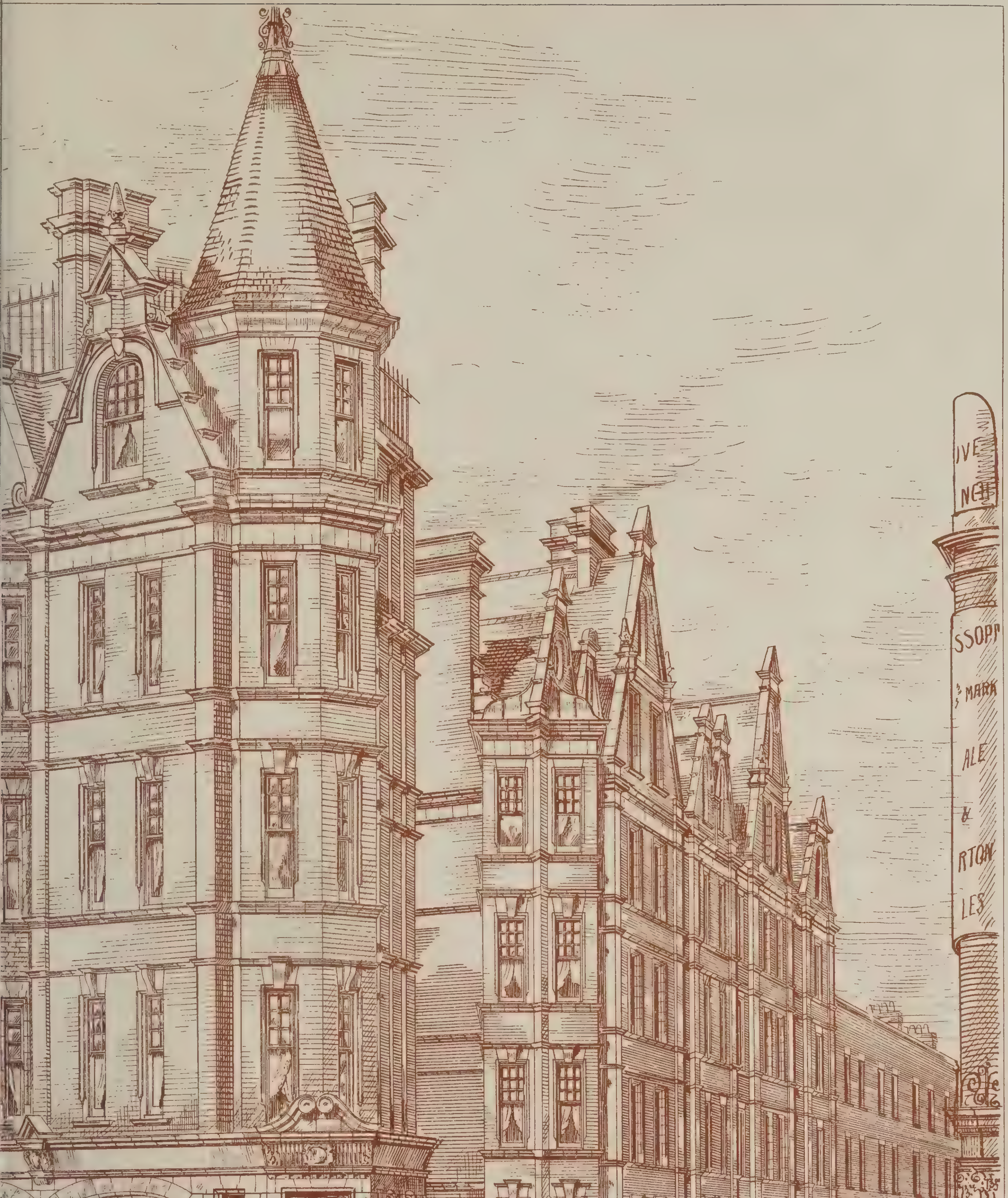


DESIGN FOR BUSINESS PR

By H. B. M

May 27th 1904



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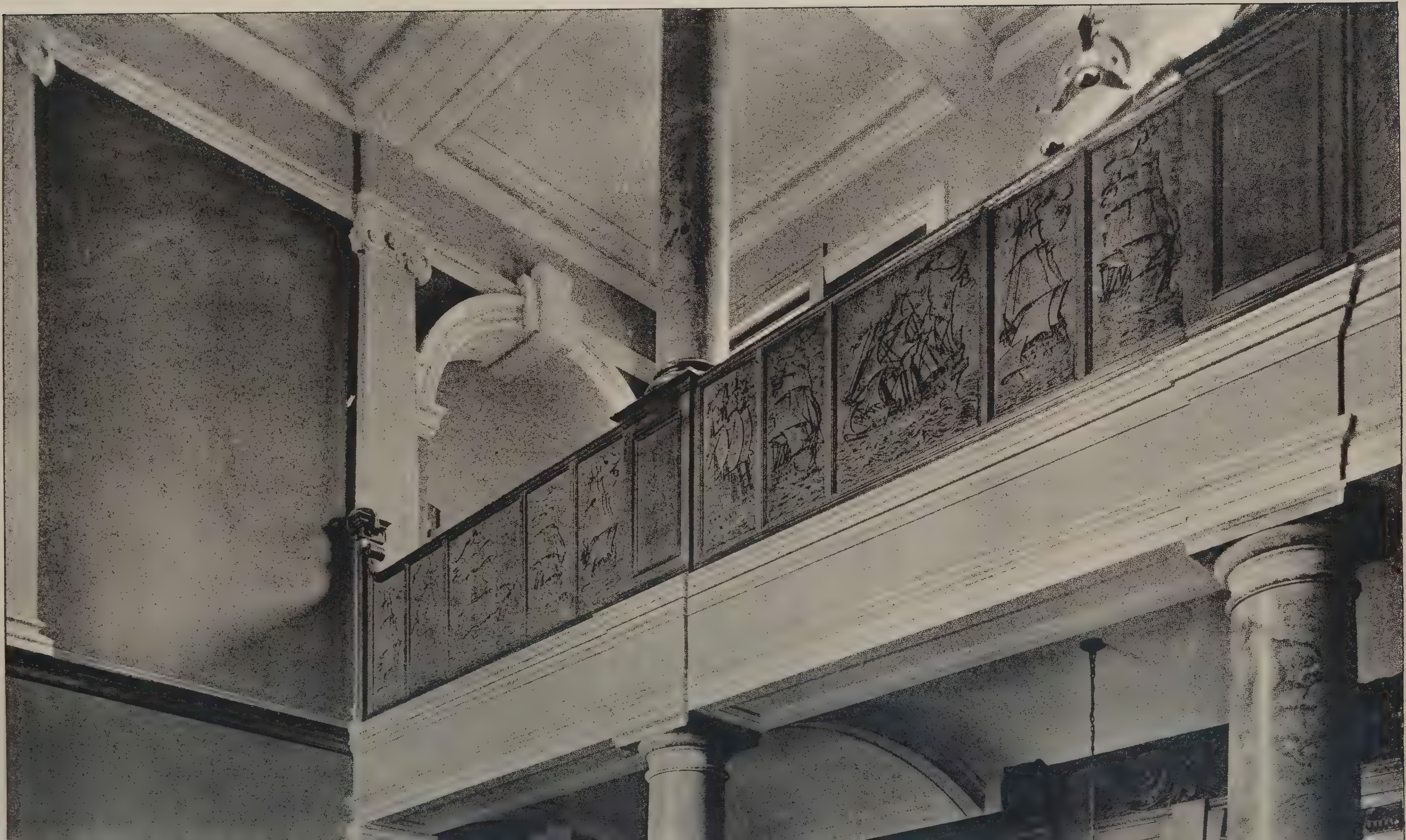
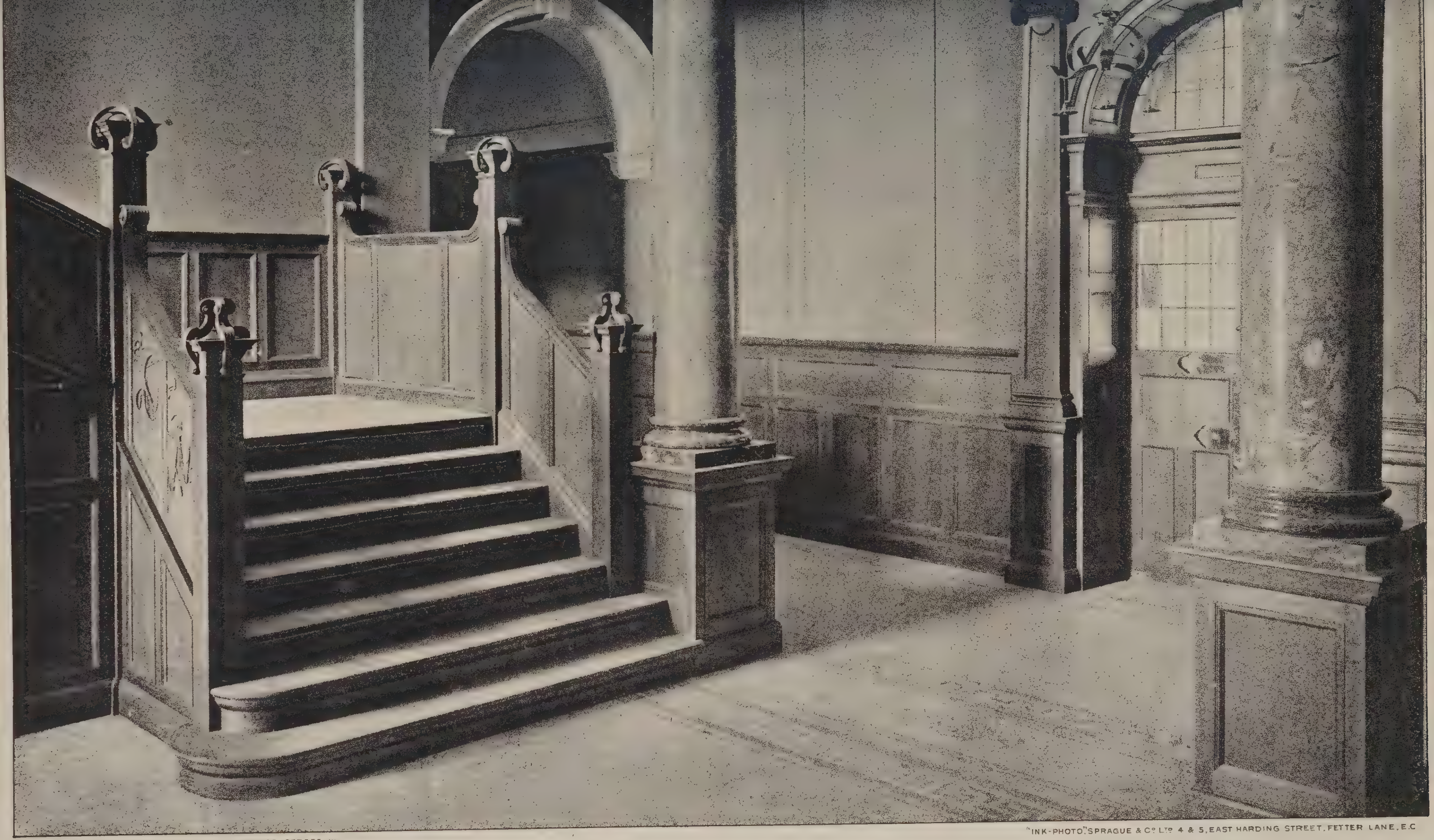
MISES AND FLATS, CROYDON.

URES F.R.I.B.A.

OF THE
UNIVERSITY of ILLINOIS

The Architect, May 27th 1904.





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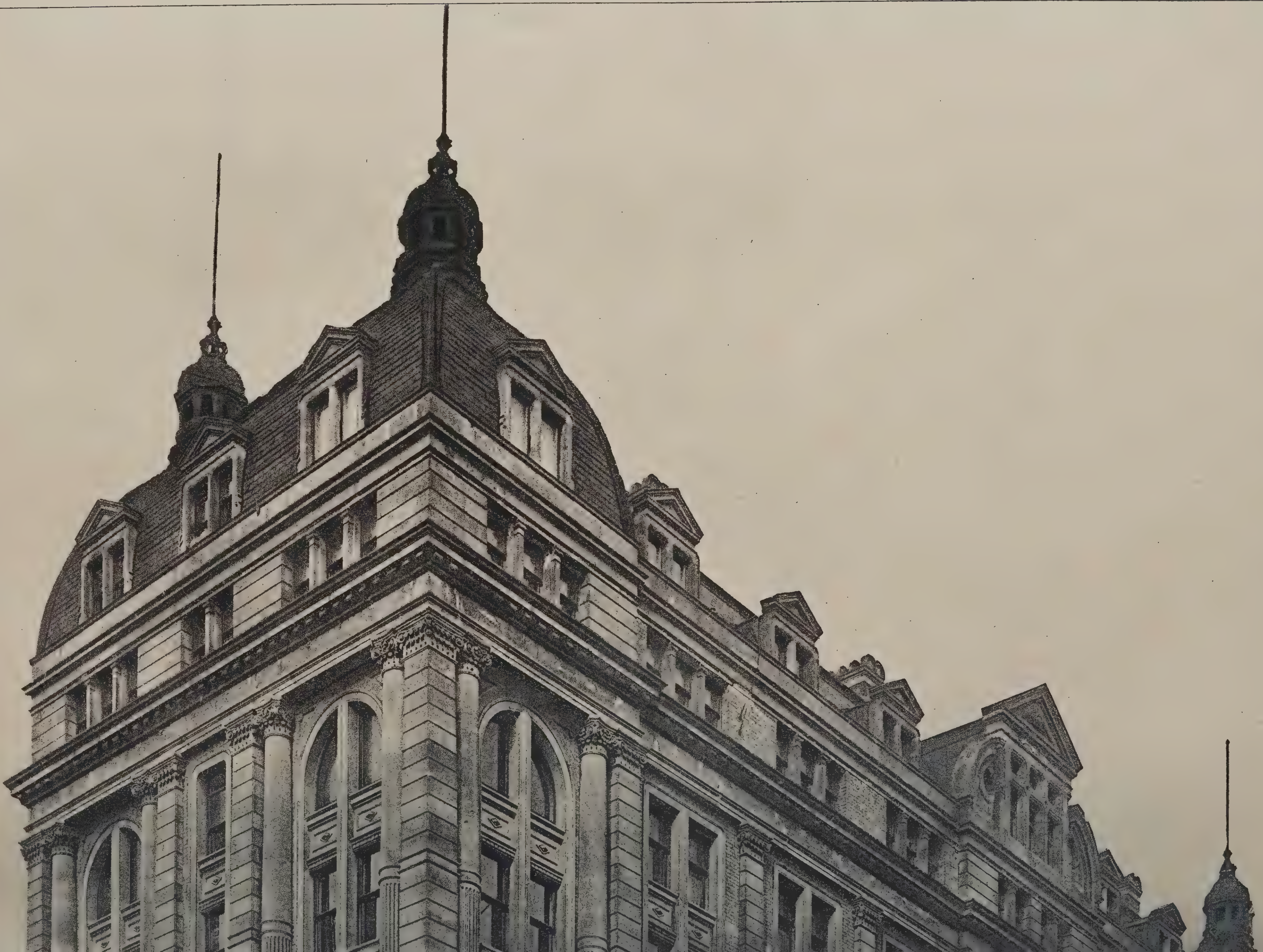
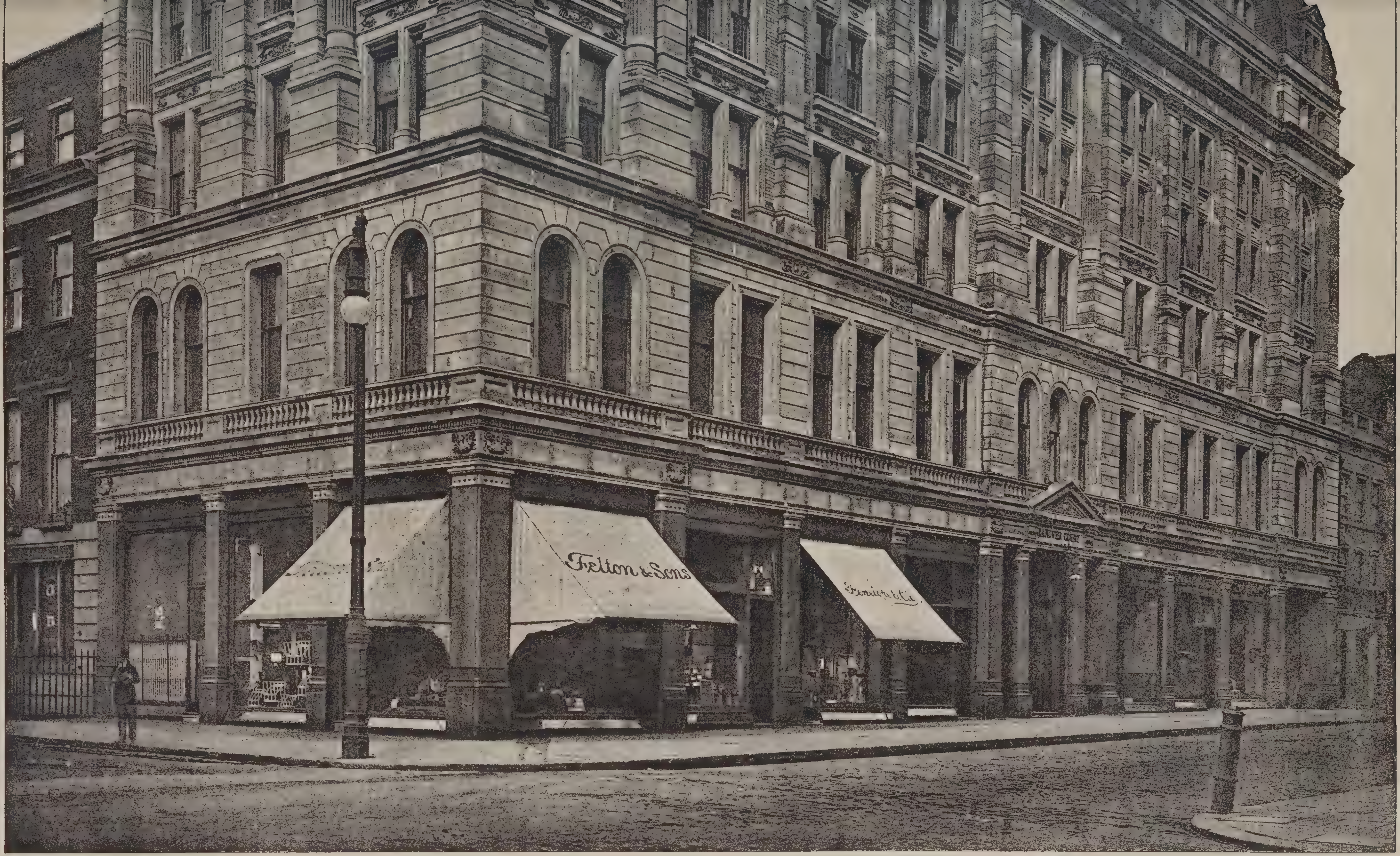
CHATHAM NAVAL BARRACKS: STAIRCASE FROM FLOOR.

By The Admiralty.

OF THE
UNIVERSITY OF





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HANOVER COURT, HANOVER SQUARE, W.

JOSEPH SAWYER, Architect.

The Architect.

THE WEEK.

The removal of the decoration from the room at Prince's Gate, South Kensington, which from the subject was known as the "Peacock Room," is an event which suggests the mutability in this country of even the most brilliant schemes of decoration. At the end of 1876 Mr. LEYLAND invited Mr. WHISTLER to adorn his dining-room. It was about 35 feet long, 20 feet wide and 14 feet high. The apartment had not been especially adapted for decoration. The artist realised that it would be principally used at night and consequently illuminated by gas, and that the shutters of three windows would be closed. If the painter had been allowed to introduce some changes in the arrangement of the room he might not have adopted the peacock scheme of decoration, or if he did it would have presented a different appearance. The owner was however not altogether amenable to good advice, and he limited his commission to the decoration of the room as it stood. Some terrible stamped leather had to remain, although WHISTLER insisted on diminishing its ugliness by paint. WHISTLER from the first complained of the way he was restricted, but at the same time he may not have been entirely grieved at being able to show what he could do under most difficult conditions. Realising that the room was to be seen at night he executed the most important part of his work by gaslight. He was often present during the day, but so many people were anxious to get a glimpse of the mysterious room, WHISTLER'S time was engaged in explanations. Practically he had only two spaces in which he was allowed a free hand. One was the window-shutters which extended to the ground, the other was the space over the sideboard. On the former he painted peacocks in all the pride of life, on the latter he suggested the enmity of two peacocks, the smaller having a white feather among its plumage. WHISTLER used to confide to his friends as if in confidence that the scene represented the relations between himself and his patron. When completed at first the room was remarkably brilliant. The gold and silver and the rich blues were indicative of a millionaire, and there may have been also a personal note in the adoption of the peacock as a *motif.* The decoration has a history, and although it is not adapted for imitation, its most fitting place would be in some art museum.

The lightning on Friday morning last did not spare The Grange at Ramsgate, the residence which AUGUSTUS WELBY PUGIN erected for himself, but of which he was destined to enjoy only brief possession. In his day the site was on the western boundary of Ramsgate, and, as a stairway was excavated through the cliff, it was in an excellent position for an artist who found relaxation as an amateur pilot, and who was not unacquainted with the fascinating dangers of the sea. It and Christian architecture were to his mind the only things worth living for. The house can only be considered as part of a group in which a private chapel or church was the chief feature. The latter is on a small scale, but it is arranged in such a way as to give a momentary impression of vastness. The illusion on entering is almost enough to confirm FERGUSSON'S opinion that "the true bent of PUGIN'S mind was towards the theatre, and throughout life the theatrical was the one and only branch of his art which he perfectly understood." The roof of the residence was destroyed, and some of the upper masonry. Some drawings by PUGIN were also lost. The Grange was in an exposed position, and it may not have been provided with a lightning-conductor. As it was fortunately empty nobody was injured. The damage will, no doubt, be repaired, for the house deserves to be preserved, as its designer and first owner was an artist who, in spite of his eccentricities, had a magnetic power which was irresistible. His influence on English architecture cannot be denied. When he first preached reform in church building, we are told that he met with no support, received no countenance, and was almost laughed at by his co-religionists. But eventually he succeeded in compelling them to prefer Gothic to pseudo-Italian, and his enthusiasm was not without effect on the English Church. Sir GILBERT SCOTT acknowledged that he sought to transform the character of his work after reading an article by AUGUSTUS PUGIN.

The Edinburgh Town Council have been fortunate in obtaining the model of the memorial of Sir WALTER SCOTT, which is one of the objects most admired by visitors to the city. When GEORGE MEIKLE KEMP'S design was sent in it was recognised as meriting preference to all the others. But there were doubts about the competency of a man who was known only as a carpenter, and who had failed when he set up in business on his own account as a joiner. It was considered advisable to test the practicability of the design by having a model prepared under KEMP'S superintendence. As he had already made various models, including one of Dalkeith Palace and another of Glasgow Cathedral, the test was easy to him. He was entrusted with the carrying out the memorial, but he did not live to witness its completion, for in 1844 he lost his life on a foggy night by slipping into a canal. His name deserves to be always prized in Scotland as an enthusiast. He was the son of a shepherd, and was apprenticed to a joiner. SCOTT'S genius had thrown a glamour over Gothic buildings, and there was no more enthusiastic lover of them than GEORGE KEMP. He not only tramped on foot through a great part of England, but he also visited France and Belgium. By working at his trade he was enabled to allow himself means to measure and draw his favourites. On his return to Scotland he found occasional employment as a draughtsman. The call for designs for a monument to SCOTT gave him an opportunity to show his power. If tested by a rigorous standard the work has shortcomings. But there can be no question about its pleasing effect. Since the niches have been filled with figures of characters from the romances and the poems the merit of the design has been enhanced, and we doubt if in all Britain there is a memorial which finds so many admirers.

On Saturday last the voting took place for the médailles d'honneur of the older Salon (Société des Artistes Français). In the section of painting the necessary majority was not secured by any of the candidates, and the voting was therefore ineffectual. At the first turn M. HENRI MARTIN obtained 77 and M. TOUDOUZE 44; at the second M. HENRI MARTIN rose to 128 and M. TOUDOUZE to 90; while at the third turn the respective numbers were 146 and 88. M. HENRI MARTIN has executed some remarkable decorative works. He is a native of Toulouse, and was a pupil of M. JEAN-PAUL LAURENS. He is fond of Southern subjects, especially those relating to the Troubadours. M. BECQUET having 125 votes, while M. COUTAN had only 67, obtained the medal for sculpture. M. MULLER gained the medal in the section of engraving and lithography. In the subsection of decorative art M. LUCIEN GAILLARD obtained the first medal, while those of the second class were awarded to M. WILLIAM LEE and M. JULES HABERT-DYS.

The formation of the Canterbury and York Society is to a great extent an archæological event. Its object is to transcribe and print bishops' registers and other episcopal records. In Mediæval times especially the bishops were potentates, and they exercised direct or indirect influence on the affairs transacted in their dioceses. It is believed that some of the registers go back to the date of the Great Charter. We hope that by means of the new Society light will be thrown upon the mystery of church building in this country. The information at present available is very limited. The bishops were likely to be consulted on financial questions, and in that way there may be occasional references to cost which would be interesting. It may also be discovered whether laymen were allowed a share in the designing of buildings. The Historic Manuscripts Commission was enabled to derive valuable results from episcopal treasuries, but if the whole of the work contemplated by the new Society can be carried out much more will be attainable.

ART AND SCIENCE.

The power which science possesses of compelling men in all lands to glorify it was exhibited in the ceremonial receptions accorded to the members of the International Association of Academies during the last few days. Wherever they went in England a welcome awaited them of unusual fervour, as if the associates were holders of authority over life and death. Indeed, at the present time science is displaying more effectively than before a death-dealing force which the Sminthian Apollo might envy. The god's rattling arrows from the silver bow were trifles if compared with the terrible compounds which in a second have driven ships and men out of life in Eastern seas, or with the new arms of precision which, being more dangerous, have no need to counterfeit the immortal Jove's dread clamours. It is science which has made the Japanese islanders more than a match for Russian hordes, and wherever it prevails there also we find a levelling of the old distinctions and the substitution of others of a different class.

It was therefore only right that reverence should be given to one man of science for assisting in the preparation of a catalogue of the stars; to another for endeavouring to explain the effects of light on the colour of plants; to a third for investigating the dolomites which may have helped to make Titian a colourist; to others for researches in anthropology, crystallography, embryology, economics, &c. All their work must now appear to be deserving of esteem, but it becomes more important if we consider that scientific discoveries are only preparatory to more important revelations of nature which will come hereafter.

On such an occasion art is supposed to hide its diminished head, for how could all the academies of art in Europe sustain a comparison with the International Association of Academies? It is generally assumed that antagonism exists between science and art, and Keats the poet was acting as a representative man when, at one of Haydon's modest parties, he proposed "Confusion to the memory of Sir Isaac Newton." Wordsworth, who was present, was too scrupulous to join in the toast, or to enter into the fun of it without an explanation. His brother poet told him that Newton destroyed the poetry of the rainbow by converting it into a prism, and the fact could not be denied. Many things in nature have of late years lost most of their mystery through science. If similar toasts were now proposed those who accepted them would need to possess heads of enduring materials. But who would care to join in them? Both art and poetry have ceased to be inimical to science. Perhaps it was in recognition of the efforts at a compromise that M. Georges Perrot was among the delegates of the International Association who were honoured at Oxford. He is the director of the Ecole Normale in Paris, which we believe is about to be broken up in order to be replaced by a more scientific institution, and he has written on various subjects connected with archæology. But to architects he is the surviving partner of the firm of Perrot & Chipiez, whose volumes on ancient art are among the most comprehensive at present in existence. He was a fitting representative, for architecture is unquestionably the connecting link between science and art.

It might be thought that John Keats was merely exhibiting English conservatism and short-sightedness when he suggested that the rainbow lost its charm through Newton's analysis. But men of a still later age and who might be assumed to be better instructed have expressed themselves to the same effect. Renan asserted that the coming of science was always followed by the departure of beauty. Taine was still more emphatic. Indeed, a whole series of æstheticians have maintained that art and poetry were based on ignorance. The precision of language or the right use of words has been declared to be fatal to poetry, just as it was supposed by the ancients that the Sibyls were prophetic and worth attention because they were entirely ignorant of the meaning of the words they uttered in fury.

It seems to us, however, that many of the successes of modern art are based on scientific principles. Is not realism, which may be said to have revolutionised the representation of things in art and literature, an observance of scientific laws? Science is only another word for certainty or precision, and the realist in his endeavours to attain that quality is willing to sacrifice a great deal and to become exaggerated. The modern pre-Raphaelite doctrine that things were to be represented as they are, and not as they appear to be, is no more than a testimony to the value of science. Accordingly geology was studied by some of the school in order that rocks could be properly depicted; trees were shown not merely as broad masses of green, but as if the artist were anxious to make a portrait of every leaf. A French critic remarked of one of Millais's paintings that the shopkeeper who sold the stuff for the clothes introduced would be able to recognise it by the grain, and that even the sheep that furnished the wool could identify its former covering. That no doubt was an absurdity, but it expressed the facts in a humorous style. The influence of science was also felt by Mr. Holman Hunt when he exiled himself to Palestine for a number of years in order to impart as much truth as was possible to one of his pictures. To a painter of an earlier age it would seem incredible that a long journey would be undertaken and much inconvenience suffered in order to represent *The Scapegoat*, a miserable animal abandoned in the desert. All local colouring is a tribute to science.

The tendency of pre-Raphaelitism was to give an amplitude of detail which would be in excess of what is visible to ordinary eyes. An opposite treatment is, strange to say, also in keeping with science. Man's senses have their weaknesses, and are therefore liable to fallacies. Is not an artist justified in accepting such weaknesses, and in endeavouring to make impressions in a peculiar way on senses which are liable to errors? Take, for instance, the case related by Charles Blanc concerning the manner in which Delacroix produced effects in his dome-paintings at the Luxembourg. Blanc, as a critic, was considered unusually observant, and he was struck by the rosy flesh-tints of one of the figures. He was informed, however, that the carnations were made up of tints as dull as street fog. The painter had worked over the torso with hatchings of strong green, but they were modified by other colours, and when seen at a proper distance became a beautiful rose colour. There was no doubt the painter played upon the weakness of the spectator's vision; he performed a feat of legerdemain as if he were a conjurer; but who would have the courage to say he was acting unworthily? Delacroix was once surprised, when getting out of one of those bright yellow cabriolets in use about 1830, to see that the shadow it cast was violet; he drew the conclusion from this phenomenon that the shadows of an object should possess more or less of its complementary colour, and from that observation which he could not explain he was enabled to produce many surprising harmonies.

In those days the subject of the contrast of colours received unusual attention. Chevreul, who was appointed consulting chemist to the Gobelins, was able to carry out his theories about effects which were due to the arrangement of colours under certain definite conditions. It might be said that practically all he expounded were visual deceptions. But by whatever name we call them, there is no doubt the effects were not unknown to ancient artists, although they might not be able to explain either the principles or the proportions of various colours requisite to attain desired effects. Chevreul did not hesitate to announce that the colouring of a picture might be absolutely true, and yet it would have a disagreeable effect, whilst "pictures in flat tints, the colours of which are perfectly assorted to the eye, although opposed to those which we know belong to the objects imitated, produce, under the relation of general harmony of colours, an extremely agreeable effect." If tested by strict logic this may seem to express topsyturveydom, but many pictures owe their success to an observance of those irregular principles.

May we not also refer to the portraits by Mr. Sargent as examples of what can be gained by a knowledge of the laws or the deficiencies of vision? If scrutinised closely or through a magnifying glass they seem to be no more than a series of disconnected dabs with a brush. But when regarded from a proper standpoint all the irregular and disconnected dabs will be found to coalesce, to have unity and to form an impressive whole. Mr. Sargent was not the originator of that method. Rembrandt long ago painted burgomasters' beards which seem to be finished to a hair, and yet on examination look as if produced with one daring but irregular stroke from a mighty brush. In all such cases there is an acquaintance with the peculiarities of vision surpassing that of the oculist's. The latter is, however, regarded as a man of science, while the artist, who is his superior in knowledge of the power of the eye, is taken, it may be by himself, as an opponent of science.

When we see so many examples of respect for the laws of science by artists, it is only reasonable to conclude that the day is not far distant when science and art will be reconciled. We may even imagine that when the next assembly of the International Association of Academies is held in England artists will be introduced for some feat which exemplifies the range of science or reveals something which scientific men have sought after in vain. Chevreul's enunciations of the laws of contrast were anticipated by Charles Bourgeois, a mediocre painter living in Amiens, who in 1812 brought out a book on the chemistry and optics of painting. A man may be a scientific discoverer without knowing it, and a painter is very likely to imagine that he has merely observed phenomena when he has been going through the inductive process in a systematic manner.

We must allow that the scientific view of things often seems in opposition to the artistic or the poetic view. A waterfall looks a different object to a painter than to an engineer, who considers it as a possible motive-power for driving machinery. A sculptor would admire the *Venus of Melos*, while an anatomist would be speculating on the kind of labour which the model must have exercised in order to acquire such abnormal proportions. But much of the difference may arise from the circumstance that science is comparatively new in the world, and that it is not as yet generally diffused. Michel Angelo was not deficient in anatomy nor Leonardo in hydraulics, yet one admired and created sublime figures of men and women, and Da Vinci was an admirer of water, whether flowing or stationary. While two such examples can be cited, it is irrational to imagine that science and art cannot be combined in the same individual, or that the days of artists are numbered because men of science are coming to the fore. Art can learn from science, and so long as that is possible science should be considered as an auxiliary rather than as an adversary.

EXHIBITION OF IRISH PAINTINGS.

If we believe naturalists, the fishes that swim in subterranean lakes are deprived of sight. Nature is generally so prudent in making arrangements between organs and surroundings, we can suppose that as light is wanting in those dismal waters there is no use in vision. It is to be regretted a similar providence is not adopted with artists. What is the use of painters or sculptors' gifts in such a country as Ireland? No patronage awaits them, and yet it is needful not only as affording indispensable support for artists, but as the source of that encouragement which imparts inspiration. Sydney Smith at one time proposed as the best means for reforming the Church that a society should be organised for the conversion of bishops to Christianity. In Ireland it would be well if an endeavour were made to induce those who pose as authorities and talk copiously about art to give a little substantial support to artists. Sydney Smith was a patron of art to the extent of 30*s.* per picture, and he sometimes succeeded in obtaining one worth 35*s.* In Ireland there is no certainty of purchases extending to so modest a sum. According to tradition, in the year when the late director of the National Gallery, Sir F. W. Burton, joined the Royal Hibernian Academy, the sales amounted to 30*s.* or 31*s.*, and unless we are mistaken there have been years when the money received was less. The collection of pictures now to be seen in the Guildhall is evidence of the spirit in which art is treated by the Irish people. We are told by the hon. director, Mr. Hugh P. Lane, that the greater portion of the collection, which it must have cost him much trouble to gather, was intended as part of the Irish exhibit at St. Louis, but "for various reasons the scheme had to be abandoned." We suppose the plain meaning of the words is that all Ireland was unwilling to contribute the expenses of carriage and dues which would be required in order to give gratification to the Irish race in America by enabling them to say that they also were enriched with artists in the present as in the past. We see further indication of the same sordid spirit in the number of pictures in the Guildhall galleries described as "Lent by the artist." They were exhibited and praised, but left with the painters.

Under similar circumstances, the practice is to cast the responsibility on the Government, and the present exhibition, unlike its predecessors, is to some extent a political move. One of the objects is to demonstrate that injustice is done to Ireland when only 300*l.* per annum is allowed to the Royal Hibernian Academy for its schools and exhibitions. There is no money granted for the purchase of modern pictures although Ireland has a National Gallery. "A gallery of Irish and modern art in Dublin," says Mr. Lane, "would create a standard of taste and a feeling of the relative importance of painters. This would encourage the purchase of pictures, for people will not purchase where they do not know." The Government would be justified in asserting that the experience in other countries does not support the suggestion to advance money for the acquisition of the very latest varieties of art. Art is no doubt like mercy, for it blesses those who give and those who take. But in Ireland there is no taking at a fair price. Everything must be gratuitous, and Mr. Lane is not ashamed to announce, "We have had promises of a picture from many of the painters exhibiting at the Guildhall." Men who profess to be amateurs would raise no objection if all the artists of the world were to supply works on similar conditions. But as for paying for an occasional specimen, that is presumed to be derogatory to the pure unselfish love of art in Ireland. Besides, it is unnecessary to wait for the creation of such a gallery in order to begin the encouragement of painters. A gallery of modern art was only recently thought of in England or in Scotland, and yet for years past large sums have been paid for pictures by private collectors. There are men of great wealth in Ireland, but they decline to imitate those of other countries in buying pictures; and if a modern gallery were created of the kind proposed, the national habit of raising obstacles in order to excuse inaction would invent others which would leave the artist still unaided and the Irish amateurs contented.

One result of this neglect on the part of the Irish public is to make the present exhibition an anomaly. The humblest visitor from the East End who saw the pictures of the Dutch school last year, or of the Spanish school in 1901, must have realised that he was becoming acquainted with the life of Spain and Holland. He could obtain glimpses of people of his own class, and, with the pictures of Joseph Israels before him, he would be justified in coming to the conclusion that the *genre* painters of England had not yet done full justice to the East End. But the Irish artists, and we do not blame them, appear resolved to ignore subjects which are characteristically Irish. There is little that is "racy of the soil" to be seen on the walls. The Nestor of Irish painters, who possesses the vitality of his countrymen to an amazing degree, and, like the sea he paints so well, seems to be independent of the course of time, Mr. Edwin Hayes, for example, has lent his *Stormy Weather*, *Harbour of Enkhuizen*, thus suggesting that in a commercial sense it is not wise to paint even Irish waves. The picture is not likely to be purchased by any Irishman, and his *Tantallon Castle* belongs to that liberal Scotsman, Mr. George McCulloch. There are, it is true, a few views outside Dublin in the collection, such as Mr. Mark Fisher's, which is suggestive of the whimsical atmosphere and its influence on the colours of trees and grass; Mr. Hone's *Malahide Sands*, which is unnecessarily dreary; Mr. Shore's *Irish Mail*, a seapiece; Mr. Watkins's *Heart of the Mountains*, which for a wonder belongs to an Irish distiller, but similar scenes form a very small fraction of the collection. The country which possesses such unrivalled subjects, and the daily lives of the people which so often offer picturesque incidents, may be said to be unknown to Irish artists. We have no wish to exaggerate, but we are compelled to say that a more true idea can be formed of Ireland, especially of the western coast, from the paintings which Sir E. A. Waterlow and Mr. W. H. Bartlett present year after year than from the majority of the pictures to be found in the Guildhall Gallery. Where among them is there a painting to compare with Mr. BARTLETT'S *Bound for their Island Home* and his *Dulse Gatherers*, which are now hung in the Royal Academy? As we remarked before, the Irish artists are not to be condemned if they fail to attempt similar works. They know the general indifference to whatever is native, and it is no modern weakness. We can see from a few sketches by the late Sir F. W. BURTON with what care he prepared himself for the representation of peasant life in Galway. He was an ethnologist as well as an artist, and wished to show fidelity both to science and art, but with all his ardour he was compelled to come to London and devote himself to Italian history and legends, and scenes from the "Arabian Nights." His countrymen could not understand his devotion to fishermen and labourers. To the gentry, officials, and those who follow intellectual pursuits, Irish peasants are too low to be utilised for pictures; only foreign peasants are worthy enough. The market for the frowsy rustics of the late ERNEST NICOL, or the earlier water-colour drawings of that graceful painter, the late F. W. TOPHAM, who earned his title, "the RAPHAEL of rags," by his preference for Irish models, was found in England and Scotland, where there is a breadth of appreciation which would be impossible in Ireland.

The paintings, as we have mentioned, were collected for the benefit of Irish-Americans and visitors to St. Louis. Under such circumstances it might be expected that as many artists as possible would be represented. A large number of men who deserved to have a place in the collection were neglected. There is not one drawing by GEORGE PETRIE, who was not only the most faithful of Irish landscapists, but the most expressive of the mystery surrounding much of the Irish scenery. His life was sacrificed to Irish art and archæology. Without going further back, the men who were contemporaries of an artist who has worked so long as Mr. EDWIN HAYES might at least be included. There ought also to have been some rule about the number of works admissible. Mr. CHARLES H. SHANNON is undoubtedly an artist of promise, and we hope he may one day attain as much success as his namesake, but when so many omissions were decreed, it is unaccountable that no less than ten of his works, including two portraits of the artist, should be found in a gallery containing seventy pictures. In the same room are six by Mr. JOHN LAVERY, besides others elsewhere.

The *Ariadne* by the latter is in a different style to the class of work he now produces. There is nothing especial to indicate the daughter of MINOS and of PASIPHÆ, and the figure in its dark gauzy veil would serve for many another love-lorn Grecian maiden, who found consolation and sometimes a refuge in the sea. Mr. VEREKER HAMILTON'S *Quatre Bras* is rather original, which is saying much for one of the great June battle scenes of 1815. It shows an attack by French cavalry in scarlet against a British square, also in red; the picture is hung in a very awkward position. Mr. C. H. SHANNON'S *Toilet of Venus* is rather Venetian in style, and shows a nude figure in a bath or tub, where a standing position is alone possible, with attendants in very rich robes. Two others of his nudities are *A Woman with Pearls* and the *Shell-gatherers*. *The Sailing of the Boat*, by Mr. A. ROCHE, is apparently a Scottish scene. Mr. J. J. SHANNON'S *Embroidery*, a woman at work, is remarkably brilliant. His *Sirens* are four heads of girls, and his fine portraits of *Lady Henry Bentinck* and the *Marchioness of Granby* are well known.

If any young Irish painter is doubtful about what course to follow, a peep at the contents of the second gallery should be enough to instruct him. In it he will see works by some of the Irish artists who came early to England and won not merely success, but respect. There is the portrait of NATHANIEL HONE, by himself. He was a travelling portrait-painter, and it could not be claimed he was the equal of REYNOLDS or GAINSBOROUGH. He was willing to accept a commission for a portrait in oils, a miniature, or one in enamels. He married a lady of property, and he depicted himself on a canvas which is wider than deep, as seated in a garden, with a fine temple in the distance, and his contented look seems to indicate that he was the owner of the region in front of him. MARTIN ARCHER SHEE was another Dublin youth who came to London with an introduction to REYNOLDS as his sole fortune. His portrait of TOM MOORE and two boys of the ASHLEY family will prove that he did not rank high as a portraitist, but his fine manners and ready eloquence served him instead of genius, and he rose to be President of the Royal Academy. One picture by him has interest, for his *Miss Mountain as Ophelia* is evidence that at the end of the eighteenth century the daughter of POLONIUS appeared in the mad scene in black. JAMES BARRY'S works are generally on so large a scale there would be difficulty in removing them, and he is represented by one of the portraits of himself. He too might have gained wealth as well as renown if it were not for his Celtic waywardness. JOHNSON considered that in his Society of Arts paintings there was a grasp of mind to be found nowhere else, and indeed sympathy with him was very general in London.

At a later time WILLIAM MULREADY was even more admired. He was only a child when he came to London, and at fifteen he entered the schools of the Royal Academy. It might be said that for sixty years he continued in them, for in life studies he found consolation for his domestic cares. The collection includes three of those paintings which EDMOND ABOUT described as marvellous illustrations for a royal edition of "The Vicar of Wakefield." One is *Choosing the Wedding-gown*, which may be considered the finest example of British *genre*. The other is the dispute between the Vicar and Mr. WILMOT on the subject of monogamy, which is known as *The Whistonian Controversy*, and the third is *Burchell and Sophia in the Hayfield*. Mr. WILMOT'S face used to be so apoplectic in colour that ABOUT was justified in suggesting when he saw it that Dr. SANGRADO should be sent for instantly, but somehow the purple seems to be subdued. MULREADY suffered for a long time from defective vision, and hence his flesh tints were occasionally peculiar. His *Sonnet* suggests his power over the figure; his *Bathers Surprised*, *Loan of a Bite*, and *The Fight Interrupted* are, like the works we have mentioned, too well known to need further comment. MULREADY knew little of Ireland, but although his family was more Irish than MACLISE'S, the typical Irish artist was DANIEL MACLISE, the son of a Scotsman. He began by representing the life he saw around him in a humorous way, and he painted peasant scenes in his *Captain Rock* and *All-Hallow Eve*. He too drew inspiration from "The Vicar of Wakefield," and he illustrated the Irish melodies in such a way as to transform them into heroic poems. He wished also to present the legendary greatness of Ireland, and his *Desmond on the Necks of the Butlers*, and his *Marriage of Strongbow and Eva* were examples of what could be done in a neglected field. Following MOORE, he anticipated VICTOR HUGO'S "L'homme qui rit" by his *Veiled Prophet of Khorassin*, which is in the gallery, and which shows what should be avoided in art. We are not acquainted with any of his landscapes, yet the unfortunate CLARENCE MANGAN the poet declared that one of them taught him to see Ireland.

No artist of the nineteenth century was more loved than DANIEL MACLISE. He was, however, more of a sculptor than a painter, and many of his works would bear translation into reliefs with advantage.

FRANCIS DANBY was a poetic or imaginative landscapist. In 1820 he exhibited his *Upas Tree of Java*, and the large work, the *Opening of the Sixth Seal*, obtained for him the premium of the British Institution in 1828. Originally the picture must have been very dark, for he had to represent the sun black as sackcloth and the moon as blood; but black is an unsafe colour to use in abundance, and the picture has now to appeal to the imagination in a double sense. His *Disappointed Love*, a young girl seated on the brink of a pool, has also become very dark. It was exhibited in 1821. Unlike MACLISE, DANBY was not a social man, at least outwardly, for he won some few but enthusiastic friends, and with such talents as he possessed much more was to be expected from him. It was fortunate for ALFRED ELMORE that he was brought to London when a boy, for he was able to enter the Academy schools, and he was no more than thirty years of age when elected a Royal Academician. His earliest patron was DANIEL O'CONNELL, who bought from him a *Crucifixion* and a colossal *Martyrdom of St. Thomas à Becket*, which were presented to one of the Dublin churches. He was ambitious, and often attempted subjects with numerous figures, like the *Origin of the Quarrel of the Guelphs and*

Ghibellines in Florence and *Hotspur and the Fop*. His *Catherine and Petruchio* shows no wish to exaggerate the strange attire of the lover, whose character is admirably expressed. Elmore's version can never be as popular as Leslie's.

In the third gallery, like the first, the pictures are by living artists. They all serve to demonstrate that Irishmen can represent foreign scenes, or scenes in foreign styles, with facility. The works are therefore mainly imitations, but on that account probably some visitors will consider there are more indications of a new school in this gallery than elsewhere. It must be said that quietness in colour predominates, and there is a good deal of dexterity, as in Mr. Orpen's *A London Window*, the houses on the opposite side of the street being visible through the glass. His *Reflections*, *China and Japan* would be worth acquiring by the Board of Education as a model of still life painting. Mr. J. J. Shannon's *The Offering* shows two girls, probably portraits, placing flowers before a crucifix hanging on the wall, and which is flanked on one side by a blue Delph plate. The composition suggests the character of the work, which is without any of the devotional feeling which used to be found in similar scenes. *Spring*, by Mr. Dermod O'Brien, recalls a similar picture by a foreign artist; but there is animation in all the Cupids, and the picture is one of the most pleasing in the collection. Does it suggest the inferiority of the pictures near it when we say that the late Mr. Osborne's portrait of the *Recorder of Dublin* appears less effective than when hung in the Academy exhibition?

The fourth gallery contains numerous miniatures, sketches, water-colour drawings by John Leech, Phil May, E. T. Sullivan and other artists. There are altogether 465 examples in the collection. It cannot be said that among the most modern works there are any of extraordinary merit. The best among them are reminiscent of the treatment of painters who were not Irish, and it is evident that the founder of a distinctly Irish school has yet to be born.

OCKHAM, SURREY.

Some of the members of the Upper Norwood Athenæum, under the guidance of Mr. Charles Wheeler, visited the country lying off the Portsmouth Road by Ripley. The party alighted at Effingham station, and proceeded at once to Ockham, where the very interesting church of All Saints was inspected with great care, the interesting details in this unrestored building proving a source of keen pleasure to the visitors. Close by the church is the mansion of the Earl of Lovelace, Ockham Park House, but it does not contain anything of public interest, so that the walk was continued till the Portsmouth Road was gained. Proceeding along this road for some distance Wisley Slade was reached.

After tea a well-deserved testimonial to the late editors, Messrs. Stanley and Harradence, was presented by the chairman, Mr. W. F. Potter, on behalf of the Council and members, in acknowledgment of the great services rendered to the Society by them during the past eleven years. The Chairman's address in making the presentation was cordially supported by Mr. Daniel Stock, who was warmly welcomed among the members, and who referred to the high state of interest and value to which the editors had succeeded in bringing the annual volumes. At the close of the proceedings Mr. Joseph Stanley and Mr. W. F. Harradence suitably acknowledged the gift.

Mr. Charles Wheeler read the following paper on the subject of the afternoon's ramble:—

The County of Surrey.

Our ramble to-day was mapped out with the object of providing a real country walk, with the additional interest of viewing a very interesting old church, and Surrey was chosen because it affords so great a variety of scenery, and such a wide choice of highways and byways as cannot be surpassed. This county, the Home County of the Upper Norwood Athenæum, has been associated with few events in history, notwithstanding its proximity to the centre of the British universe, and the fact that it was known as the Sothe Reye, or South Realm, whence its present name is derived. Even its Roman remains are not of great importance, although they have been discovered here and there. From the time that the Great Charter was signed by King John at Runnemede, June 15, 1215, the historical annals of the county are blank until the Civil War, when a skirmish took place at Kingston, June 7, 1648. The only ecclesiastical ruins of first importance are the picturesque walls of Newark Priory, founded for Augustinians in the reign of Richard Cœur de Lion, and the more particularly interesting ruins of Waverley Abbey. Of old castles we have Guildford and Farnham, and ancient Domestic architecture is well represented in Surrey.

Ockham.

On alighting at Effingham we are at once reminded of Queen Elizabeth and the Spanish Armada, for the Lord High Admiral of England was Lord Howard of Effingham, who had under him Drake, Hawkins and Frobisher; but the village which gave him his title does not contain his remains in its church, though the county possesses them, for he is buried in St. Mary, Reigate.

All Saints, Ockham, is situated in Ockham Park, near the mansion of Lord Lovelace. The church is of thirteenth-century date, and possibly earlier, and consists of nave and aisles, chancel and a three-storeyed Perpendicular tower. The east window of the chancel is a beautiful arrangement of seven lancets divided by shafts of Sussex marble with enriched capitals, and decorated with well-preserved dog-tooth ornament. In a mausoleum on the north side of the church is a monument by Rysbrack to Lord Chancellor King, who died in 1734, and a bust by Westmacott to a later Lord King, who died in 1833.

All Saints, Ockham.

John Wesley relates in his Journal, January 20, 1746, how his views were affected by reading Lord Chancellor King's account of the primitive Church. One of the things he is said to have learnt was that the office of bishop was originally identical with that of presbyter, and so he argued that he as presbyter was capable of ordaining ministers. Unfortunately he acted upon this theory, though he afterwards regretted it.

There are brasses in the church to W. Frelende, rector in the fifteenth century. Near the west end of the churchyard is the body of a large oak broken off at about 12 feet, with a young oak growing from the centre.

Ockham Park House.

A peculiar tradition exists relative to a nunnery which formerly stood here, to the effect that a vaulted passage led to the priory of Newark, standing on the north bank of the river Wey. The Newark brethren are represented as having been drowned by a sudden inrush of water just as they were completing the tunnel. In Domesday Book Ockham figures as Bocheam, and was in possession of Richard de Tonbridge, of whose descendants Gilbert de Tonbridge was killed at the battle of Bannockburn; another of the family died at Rhodes on his way to the Holy Land in 1387; others were killed in the battle of Shrewsbury 1483, Northampton 1460, St. Albans 1456; Wolsey beheaded one, and the lands came to the Crown in Queen Elizabeth's reign 1561. Three distinguished members of the Order of St. Francis were born at Ockham—Nicholas de Ockham (c. 1320), a commentator on Peter Lombard; John de Ockham (c. 1344); and William de Ockham (d. 1347), the "Invincible Doctor" and founder of the Nominalists.

In the churchyard is an epitaph to John Spong, a carpenter, who died November 17, 1736:—

Who many a sturdy oak has laid along,
Fell'd by death's surer hatchet, here lies Spong;
Posts oft he made, yet ne'er a place could get,
And lived by railing, though he was no wit.
Old saws he had, although no antiquarian,
And styles corrected, yet was no grammarian.
Long lived he, Ockham's premier architect,
And lasting, as his fame, a tomb to erect.
In vain we seek an artist such as he
Whose pales and gates were for eternity.
So here he rests from all life's toils and follies,
Oh! spare kind Heaven, his fellow-labourer Holliss.

COST OF EDUCATION IN ENGINEERING.

THE secretary of the committee appointed to inquire into the expediency of maintaining the college at Coopers Hill wrote to the universities and other institutions concerning the cost of education in engineering, the estimated cost to a student of board and lodging, &c. The following are extracts from the replies received:—

The Vice-Chancellor of Cambridge University wrote:—

"The duration of the course is normally three years. A fourth or post-graduate year could readily be added, with provision in it for special teaching adapted to Indian service requirements. As to cost, the annual fees of a student taking a full engineering course amount to 25*l*. or 30*l*. The estimated cost of board, lodging, &c, I should place at from 150*l*. to 200*l*., according to the college which the student joins, but still more according to the student's tastes. It would be possible by the practice of strict economy to reduce the expenditure below 150*l*."

The Principal of University College, London, stated:—

"(1) That the fees for the normal three years' course in the engineering department amount to 115 guineas, being an entrance fee of 10 guineas and an annual payment of 35 guineas for each of the three years. (2) The college does not provide residence for students; they make their own arrangements, and the cost of board and lodging is therefore the same as for other young men of the same class living in London. As to standing subscriptions, it is desirable that all students of the college should join the Students' Union Society, subscription 4*l*. 4*s*. for three years, and engineering students find it an advantage to belong to the Engineering Society, annual subscription 2*s*. 6*d*."

According to the Principal of King's College, London, (*a*) The average cost, including tools, books, &c, may be placed at 60*l*. a year. (*b*) The estimated cost of board and lodging outside the college would be 30*s*. to 2*l*. a week. The college is non-residential. (*c*) The course for civil engineers is three years.

At the City and Guilds of London Institute the cost of education during the three years' course is annually:—Fees, 30*l*.; books and apparatus, 7*l*.; board and lodging, about 70*l*. to 100*l*.; subscriptions, very small, about 2*l*.

The return from Owens College, Manchester, says that the annual fees for college instruction amount to about 24*l*. for the first year, 23*l*. for the second and 22*l*. for the third year. The fees at Dalton Hall for board and lodging are 90*l*., and at Hulme Hall 60*l*. per session. Private lodgings would cost somewhat less than in London. The regular course for a degree or a certificate extends over three years. For the degree a preliminary examination of a general character is insisted on. The year is divided into three terms averaging about eleven weeks each.

The annual fees (by composition) in the engineering department of University College, Liverpool, are 35*l*. a year. The majority of students live with relations or friends, and comparatively few of them are in lodgings. It is, therefore, difficult to supply an accurate estimate of the amount of personal expenses as distinct from college fees. The amount varies, and varies considerably, with the means and the requirements of the individual student. The normal expenditure under this head is from 22*s*. to 30*s*. a week during term time. The duration of the course is three years.

The full Birmingham University courses in civil or mechanical engineering extend over a period of four years. The amount of the fees, including examination fees, is about 35*l*. per annum. There is no residential hostel at the university, but it is not difficult to get lodgings in suitable quarters at from one guinea per week upwards.

In the University of Durham the total fees for a curriculum in mechanical engineering would amount to 64*l*., for civil engineering 72*l*. The estimated cost of a student for board and lodging in the college hostel for the whole session would amount to about 54*l*. per annum. The course lasts three years.

The course of instruction required for the B.Sc. degree of the University of Edinburgh is three winter sessions and one, or it may be two, summer sessions. The fees to be paid would not exceed 25*l*. a year. As to the cost of board and lodging, much would depend on the means and habits of the student. Some would live at home or with friends, others coming from a distance would live in lodgings or board in families, and for these the charge might vary from 26*s*. to 30*s*. per week.

The annual fees in the University of Glasgow are very low. The total depends to some extent upon the classes chosen by students, but about 50*l*. will cover the whole of the fees for a three years' course, or say under 20*l*. a year. It is difficult to state the cost of board and lodging, as the men do not reside in the college. Probably something like 25*s*. to 30*s*. a week would provide suitable board and lodging. Full course is taken in three or four sessions, depending upon the state of preparation of the candidate on entrance. A session lasts only for six months, and students go into works or offices during the summer half-year, thus working their course upon what is called the "sandwich system," which is now meeting with so much approval from those who have been discussing the training of engineers at the various meetings held recently in London.

The cost of an engineering education in the University of Dundee as laid out for the graduating student is returned as follows:—The fees, including matriculation, will generally amount to no more than 25*l*. to 30*l*. per annum for the average of the three years; while the cost of board and residence in the town, during term times, may be taken as varying from 35*l*. to 50*l*. per annum.

The cost of the B.A. degree in Dublin University, with instruction and examination in the four years' course, is 80*l*., or 97*l*. for five years. The fees for three years in the engineering school amount to 40*l*. A few extra fees in special subjects may be put down at 10*l*., so the total cost in fees in the five years may be put down as something less than 150*l*. The cost of living inside the college varies according to the tastes and habits of the students, but 70*l*. a year would be a fair allowance to cover such cost and pay for games and other college subscriptions. 100*l*. to 120*l*. a year should practically cover everything, cost of living, subscriptions and fees.

A RELIC OF ANCIENT LANARK.

IN taking down the oldest building in the county town, with the exception of the roofless ruin of St. Kentigern's Church, some ancient masonry was discovered. A portion of the old property having a gable facing High Street is still occupied, but the part now being demolished, and in which the remains have been discovered, has been uninhabited for a number of years. The building is situated in Bernard's Wynd, a narrow lane leading from a part of the High Street, where in early times dwelt important dignitaries of Church and State. It is a two-storey erection, built of soft freestone, which appears to have been taken from the quarries of Jerviswood, where the material for the old church of St. Kentigern was obtained in the twelfth century. This fact seems to indicate that the old property may date from the same period. When the modern additions of lath and plaster were removed from the inside of the walls a number of recesses were discovered, with Gothic arches, resembling the piscinæ of the Roman Catholic churches in pre-Reformation times. It is known from the burgh records that at this portion of the High Street during the early Catholic period the abbots of Dryburgh, Melrose and Kelso had residences, and at a later date the Earl of Angus lived here. This gives some probability to the supposition that the old building at one time formed part of a private chapel attached to the residence of some ecclesiastical dignitary of that early date. The second storey of the building was supported on stout wooden beams about 16 inches square, and the thickness of the walls is rather Mediæval than modern. Over one of the doorways on the outside there is a stone arch placed inversely, with the convex side resting on the lintels. Whatever may have been the original design of the old building, local antiquarians regard it as very ancient, and much that might have given a clue as to its exact age and purpose may have been destroyed by the frequent improvements and additions to the structure in accordance with modern requirements.

CARVED STONE AS MASONRY.

A CASE arose lately in one of the metropolitan county courts where the widow of a man who was killed by falling into a lift-well on which he was employed sought compensation under the Workmen's Compensation Act. The judge decided against the claim. In 1901 Alexander Rhind, who was employed by his brother, Mr. John Stevenson Rhind, the sculptor, at a house in Edinburgh, fell into a similar well. He also claimed compensation, and the builder has since paid 1*l.* a week, or 84*l.* in all. Recently Mr. Topping, the builder, sought the money on the ground that Mr. J. S. Rhind was the employer. Lord Kincairney, after hearing the case, found that the defender was the employer of the injured workman, and was also the undertaker in the sense of the Workmen's Compensation Act; that he was a person who would have been liable in compensation to the injured workman, and that under the 4th Section of the Act the pursuer was entitled to be indemnified by him. He therefore decided against the defender for payment of 84*l*, with interest, and costs. The defender appealed.

The Lord President said:—The question in this case is whether the pursuer is entitled to be indemnified by the defender in respect of a payment which the pursuer made, under the Workmen's Compensation Act, 1897, to a workman in the employment of the defender. The following are the material facts:—The pursuer was engaged in building a hotel in South St. Andrew Street, Edinburgh, under a contract with the owner. They entered into a separate contract for the execution of certain carving or ornamental work upon the hotel, and the pursuer contracted with the defender for the execution of that work by the defender. Alexander Rhind was one of the workmen employed by the defender in executing that work, and having sustained an injury by falling down the well left for a hoist in the hotel, he (Alexander Rhind) proceeded against the pursuer under the Workmen's Compensation Act and recovered from him 80*l.* in name of compensation. The pursuer then raised the present action against the defender, as the employer of Alexander Rhind, concluding for indemnification in respect of the payment so made. By Section 4 of the Workmen's Compensation Act it is provided that where in an employment to which the Act applies the undertakers as thereinafter defined contract with any person for the execution by, or under, such contractor, of any work, and the undertakers would, if such work were executed by workmen immediately employed by them, be liable to pay compensation under the Act to those workmen in respect of any accident arising out of and in the course of their employment, the undertakers shall be liable to pay to any workmen employed in the execution of the work any compensation which is payable to the workman (whether under the Act, or in respect of personal negligence or wilful act, independently of the Act) by such contractor, or would be so payable if such contractor were an employer to whom the Act applies, "provided that the undertakers shall be entitled to be indemnified by any other person who would have been liable independently of this section." Alexander Rhind claimed, as he was entitled to do under the 4th Section, compensation from the pursuer, who was the principal undertaker with respect to the construction of the hotel, and the pursuer paid compensation to him. The present action is, under the 4th Section, at the instance of the pursuer against the defender as being a person who would have been liable to pay compensation to the injured workman independently of the 4th Section. I do not understand it to be disputed that the pursuer would have a good claim for indemnification against any person who would have been liable independently of Section 4, and the question comes to be whether the defender is a person who answers this description. It was contended that the pursurer is not entitled to recover, because the accident was due to his fault in not having kept the well for the hoist duly lighted or fenced, but I agree with the Lord Ordinary in thinking that this defence fails on the facts, and that the accident was really due to forgetfulness or thoughtlessness on the part of Alexander Rhind, the injured man, who was aware of the existence and position of the well, but had apparently forgotten about it for the moment. If the defender was a person who would have been liable independently of the 4th Section of the Act, the pursuer's claim for indemnification is well founded, and I am of opinion that he was in that position. The defender was, in effect, a sub-undertaker as regards the carving or ornamental work, and he would in my judgment have been liable to the injured workman as his employer apart from Section 4. This being so, I am of opinion that he is liable under that section to indemnify the pursuer as regards the sum which the pursuer paid to Alexander Rhind in the name of compensation. For these reasons I consider that the Lord Ordinary's judgment should be adhered to.

Lord Adam concurred.

Lord Kinnear said it was argued for the reclaimer that the decision in the House of Lords case of Cooper and Craig was inapplicable to this case, because the reclaimer was not a contractor—an undertaker—in the sense of the 7th Section of the Act at all by reason of his not having undertaken the construction, repair or demolition of the building. He contracted only for the execution of certain operations of carving upon the masonwork, and not for the building of the masonwork, and, as his Lordship understood the argument, it was maintained that construction really meant the piling up of stones in order so as to make the building, but did not include the ornamentation of those stones when so placed in order. If there had been no authority to the contrary, his Lordship should have thought that this was a somewhat perverse misconstruction of the words of the statute. It might very well be, as they were informed that it was, convenient for architects and builders to distinguish for their own purposes between the structural and the decorative parts of a building, and for that purpose they might use words of ordinary language as if they were terms of their own art. But that would not deprive these words of their ordinary meaning when they were used for the common purposes of language, and there was certainly nothing either in the purpose or the language of this statute to suggest that the Legislature used these words in any restrictive or technical sense, if such there were. On the contrary, it appeared to be plain enough that the Legislature used these words as words having the ordinary meaning of plain English. It was quite possible that the carving might have been omitted and a serviceable building still produced, but if it were not omitted but performed then that it was part of the original design of the building to be constructed seemed to him to be perfectly clear, and also that the building was not completely constructed until that work was performed.

COAST EROSION.

A MEETING of the committee appointed by the conference of local authorities in January 1903 for the purpose of considering the question of national help for sea defence purposes was convened at the Guildhall, Norwich, on Saturday by the town clerk of Lowestoft (Mr. R. B. Nicholson). A letter was received from Colonel Lucas, M.P., stating that Mr. Gerald Balfour, president of the Board of Trade, had suggested that the various localities should, if they had not the necessary powers, apply to the Local Government Board for power to raise the sum necessary to pay the cost of an inquiry into the question of sea defence. The committee agreed to prepare a report setting forth the result of the communications made between them and the Government, such report to be submitted to a meeting of the representatives of the local authorities of Norfolk and Suffolk with the members of Parliament for the districts affected, with the following recommendations. That the scope of the operations should be extended so as to include the districts of all the local authorities in Great Britain who are interested in the question of sea defence, together with their Parliamentary representatives; and that in the event of the above-named recommendation being adopted, the conference be invited to consider in what way the financial burden, which is now solely borne by the sea-coast districts, can be more adequately arranged.

HISTORIC SOCIETY OF LANCASHIRE AND CHESHIRE.

THE first summer excursion of this Society took place on the 28th ult. A large party assembled at Woodside and travelled to Holywell, where, after lunch, the ruins of the abbey of Basingwerk were visited, by the kind permission of Sir Pyerce Mostyn, of Talacre. Mr. W. Fergusson Irvine, the hon. secretary, who conducted the party, read a short paper giving a brief sketch of the history of this interesting Cistercian monastery, and afterwards the various buildings were examined in detail, and the reader of the paper pointed out the uses of each portion of the structure. A ground plan of the abbey had been prepared and greatly assisted the members in following the speaker's remarks. Especial interest was taken in the fine row of half-timbered buildings lying to the east of the refectory, which seem to have been used by the monks as stores and granaries. A short drive took the party to St. Winifred's Well, which was next inspected. The beautiful chapel over the well, built by Margaret, Countess of Richmond, mother of Henry VII, was much admired. After a visit to the parish church the party dined and returned to Holywell through the beautiful Strands Wood path. An interesting discovery was made by some members of the Society. In the stack yard of the abbey farm, buried under a pile of brushwood, was found a tombstone which had originally stood in the abbey, commemorating the eldest son of the second Lord Petre, who died an exile from his native country for his loyalty to King Charles in 1647, his body evidently having been brought home for burial.

NOTES AND COMMENTS.

The system of insurance against fire in American buildings has been considered in other parts of the world as one of the chief causes of the destruction of house property. Immense sums have been paid, and little care seems to be taken to inquire into the origin of the conflagrations. The financial system in the United States is so closely connected with speculation, people have doubted whether the losses of the insurance offices were not in some mysterious way passed on and finally borne by investors of an altogether different class. It is calculated that the annual losses in the United States are about twenty millions sterling. The National Board of Fire Underwriters have at length wakened up to a belief that so vast a loss need not be inevitable, and could be to a great extent avoided if proper precautions were adopted. It is therefore proposed that a special staff of men acquainted with construction should be organised. They will have to give special attention to the subject of fire resistance. Their surveys will not be confined to an examination of single buildings, but will be more comprehensive, for they will make recommendations respecting water-supply, building by-laws, brigade organisation, to which the attention of municipalities will be directed. Stuart Mill, it is true, says that "there are few instances of any edifices applied to industrial purposes which have been of great duration ; such buildings do not hold out against wear and tear, nor is it good economy to construct them of the solidity necessary for permanency." That may be true in some degree, for there exist not only houses, but quarters, in most cities which should be removed, and fire often is an effective remedy. But on some occasions destruction causes financial losses without any corresponding advantages.

What is an interest in land? The answer to this question may sometimes seriously affect legal rights and duties. In the case of Frank Warr & Co., Ltd., *v.* London County Council the right of the plaintiffs to compensation under the Lands Clauses Consolidation Act, 1845, depended upon the answer to be given to it. They had made a contract with the lessees of the Globe Theatre in the Strand, under which they had (1) the sole right to supply, during the term of the lease, refreshments, programmes, &c. ; (2) the right of free access to the theatre necessary for these purposes ; and (3) the exclusive right to advertise and to let spaces for advertisement in the refreshment and cloak-rooms. The defendants compulsorily purchased the Globe Theatre under the London County Council (Improvements) Act, 1899, which incorporated the Lands Clauses Consolidation Act, 1845. The Court of Appeal (affirming Wright, J.) held that this contract did not give them an interest in land, and that they were not therefore entitled to compensation. They took no interest in the land of the lessees—merely a license to use their land. This is an old-established distinction in the law ; and it is a distinction which is not merely technical. To allow another man to use one's property is a very different thing from giving him any interest in it ; and the character of the transaction is not altered if the licensee contracts to pay for a permission which he expects will result in a profit to himself. He may have a right to sue upon the contract. He has no right to or interest in the property which he uses by virtue of the contract. "It cannot in law be the case," said Romer, L.J., "that if a man gave a license to persons to come on to his field to play at cricket, and to other persons a license to come there for the purpose of supplying those engaged in the game with refreshments for profit, the one license would not confer an interest in land but the other would."

Having noticed as they appeared the divisional volumes of "The Modern Carpenter, Joiner and Cabinet-maker," prepared under the direction of Mr. G. Lister Sutcliffe (The Gresham Publishing Company), it is almost enough to say that the final volume is now to be obtained. The work forms a large quarto containing 458 pages, with excellent plates, besides numerous illustrations in the text. The last part includes a treatise on joinery, by the editor ; chapters on "Shop Management," by Mr. A. C. Remnant ; on "Estimating," by Mr. W. E. Davis, and on "Building Law," by Mr. E. S. Roscoe. An ample glossary and index are appended. Mr. Roscoe's contribution is mainly addressed to builders, and he gives good advice in plain language. The following, if constantly acted on, would save much litigation :—"It may be well to remind builders of what was said by a late distinguished judge, that if a man does in direct terms enter into a contract to perform an impossibility, subject to a penalty, he will not be excused because it is an impossibility. This should always be borne in mind in the stress of competition, for once a contract is signed those who have signed it are bound by it. In the particular case in which this hard saying was pronounced, the builder had by his contract bound himself to complete certain work by a specified date, and further, he had agreed to complete alterations and extras by the same date. No doubt he was under the impression that the margin of time he had allowed himself was sufficient for the original work and any extras. As a matter of fact it was insufficient. But once a contract always a contract, and having undertaken an impossibility this builder was obliged to suffer."

ILLUSTRATIONS.

EXAMPLES OF WORK BY STUDENTS OF THE SCHOOL OF APPLIED ART, GENEVA.

The sixteen delegates from the West Riding of Yorkshire, who are at present engaged in studying the system of training adopted in the Geneva school, cannot fail to have become familiar with the originals of the subjects of the illustration, and with many similar works. It will be observed that the sculpture, pottery, metalwork and woodwork are all of a kind that could easily attract purchasers. The examples are therefore evidence of the practical character of the teaching, as well as of the artistic spirit which prevails in the school. The article by Mr. Laurence Harvey, which we published on May 13, explains the system adopted in the teaching. As he said, art training and workshop practice are carried on simultaneously. In some classes the instruction occupies ten hours daily. The course of studies extends through five years.

THE KNOLE, BOURNEMOUTH.—NORTH FRONT—SOUTH FRONT.

We give two more views of the exterior of the attractive house at Bournemouth, of which the late J. D. Sedding was the architect. On the 6th ult. we published views of the interior.

DESIGN FOR A COUNTRY HOUSE.

THE GREAT HOUSE, LLYSWEN, BRECON.

This residence was built in 1895-96 amidst beautiful scenery on the banks of the river Wye at Llyswen (adjoining the churchyard), about 5 miles from the town of Brecon and in the mid-Cambrian Valley, for Mr. Lewis W. H. Jones. It was erected on the site of the old "Great House," which was entirely demolished owing to its decayed state and dampness. The latter was probably originally used as the Vicarage, but a modern one has been erected some little distance away. The walls were faced with Dennis's Ruabon pressed bricks ; old materials were reused as far as possible, and the roofs were covered with the old slates, boarded and felted, and the old traceried and carved gable was restored and refixed in the centre gable. Several carved and traceried oak doors were also reused. All stone dressings, &c., were worked by Messrs. David & Sant in Forest of Dean stone at the quarries and sent to the site for fixing. The work was carried out by local tradesmen under the direction of the architect and a clerk of works. Messrs. Foster & Dicksee, of Rugby, made some excellent joinery fittings for doors, staircase, overmantels and other woodwork, and the total cost was 3,070*l.* The architect was Mr. S. P. Rees, A.R.I.B.A., of 3 Pinner's Court, Old Broad Street, London, E.C.

CATHEDRAL SERIES.—CHESTER: WEST END OF SOUTH WALL OF REFECTORY, AND NORTH-WEST ANGLE OF CLOISTERS.

The illustration published last week as "Premises and Flats in Croydon" should be described as "Business Premises and Artisans' Dwellings at Crawford Street and Homer Street, Marylebone," and were erected from the plans of Mr. Harry B. Measures for the Artisans, Labourers and General Dwellings Company, Ltd.

BILLS OF QUANTITIES AS CONTRACT DEEDS.

THE following important judgment was delivered by Mr. Justice Channell in the action Patman & Fotheringham *v.* P. E. Pilditch :—

This matter is, of course, one of considerable doubt upon the construction of this contract. The bills of quantities are incorporated into this contract in an unusual manner. I have been referred to a statement of the Master of the Rolls, in which he says, dealing, I think, with the ordinary case of a bill of quantities, that it is well understood and that it had been settled in more than one case that this document, the bill of quantities, where it was embraced in and made part of one of the other documents, whether by being in the specification or by being scheduled to the contract or as a separate document altogether, was not and was not intended to be a representation to be acted on in the sense of being a warranty. Now as regards all the instances which the Master of the Rolls gives, except as to being introduced into the contract, that of course is all perfectly clear. He speaks in general words of it being introduced by, amongst other things, a schedule to the contract. He does not say in the contract itself, and if it is introduced into the contract itself it seems to be perfectly obvious that the operation of it depends upon the mode in which it happens to be introduced into the contract. Because it is perfectly possible, although a thing is a bill of quantities and has been prepared as a bill of quantities for the ordinary use of a bill of quantities, still it is possible if the people like to incorporate that into their contract as a description of what the work is that is contracted to be done, they can do it, and therefore if you find it in the contract you have got to construe the contract simply so, and say what it means ; and in this case, as in almost any other case, if one has got to deal with the way in which the Courts have construed other and different contracts from the one in question, it does not afford very much help. I suppose everyone understands by this time what a bill of quantities is, and how it comes into operation. It is prepared, as a rule, by some independent person, who, under a special arrangement that is made in such matters, takes the place of the builder's clerk, and if there were no such thing as making out a bill of quantities when the plans were submitted to tender each builder would have to do it himself, and have to pay his own clerk for doing it ; but for general convenience it is done in a different way, and that man whose services, rendered before the builder knows anything about it, are adopted by the builder in each particular case stands very much in the same position, in fact, in quite the same position as if he had been originally employed by the builder to take out the quantities for him himself, although he has been employed by somebody totally different. In this particular case the gentleman who is entering into this contract for the building to be built for him is himself an architect. He was the architect in regard to this building and the printed form is altered therefore from the architect engaged by the employer to the architect and employer, and in some respects the contract was a little bit anomalous. It does happen that he had prepared in his own office these bills of quantities ; so that it being done by him through his clerk it is the same thing as if it had been done by himself and I think it applies for this purpose to totally different characters. He is a contracting party. Also he is the quantity surveyor. As a contracting party he has certain liabilities and as quantity surveyor he would take other liabilities ; and certainly, if as quantity surveyor there was negligence in the preparation of these quantities in that capacity, either in this action if it is properly framed (I am told there is something to be said in reply to that), or in some other action which should be properly framed, that is, if in his capacity of quantity surveyor he has been guilty of negligence he will be liable of course for that negligence. There is no difficulty about that cause of action. The real difficulty is the main cause of action if not the only cause of action that is set up in these pleadings, and that is the cause of action against him as contracting party. Now as to that we have got really to see what is the true meaning of this contract so far as regards what is the contract work which there is a contract to do for the 17,000*l.* As a general rule, of course, the contract work is described in plans and a specification.

The bill of quantities is the estimate made by some outside person as to the quantity of work which those plans and specifications show, and, assuming that it is properly done, the works described in the bills of quantities and the works described in the plans and specification would be identical. In this case the suggestion is, and for the purposes of argument, and for the purposes of argument only, has it been admitted that they are not identical, and that there were very large discrepancies between the bills of quantities which were in point of fact made out and what ought to have been the true bills of quantities upon the contract plan.

Now, those being the facts, the contract is entered into in this shape :—The contractor will substantially complete, &c , for the sum of 17,000*l.* the several works required to be done in the erection of a block of flats on a site.

If it had been kept there it would have been of course absolutely and entirely indefinite. The next sentence is, "in a good, sound, lasting and workmanlike manner." That is the manner, and we have not yet got the particular description turning the indefinite block into some definite amount of contract work. Then it says :—"According to the plan, invitation to tender, to specification and bills of quantities signed by the contractors" Now, "signed by the contractors" grammatically, and, in fact, in this case no doubt applies to all the things, although I do not suppose the invitation was signed by the contractors. It may have been. But the plans were signed by the contractors. The specification was signed by the contractors. The original bill of quantities was not signed by the contractors, but the priced bill which he gave in was. I think, therefore, that those bills of quantities signed by the contractors mean the priced bills of quantities. So far, at any rate, I think Mr. Duke is right.

Now the question is that following those words "according to the plans, invitation to tender, and specification and bills of quantities," that is, following upon an indefinite description of the work to be done, you must find the description of the work that is to be done, the thing that turns a block of flats indefinite into some definite block of flats, you must find that somewhere or another in these words that follow, "the plans, invitation to tender, specification and bills of quantities." But also we have in these four documents to find the mode of doing the work, because that has come just before in "a sound, lasting and workmanlike manner" according to these documents. So that you would expect these four documents would do two things :—(1) Define what the work that has to be done is, and turn the indefinite, "a block of flats," into the definite block of flats, and (2) would also contain the instructions as to the mode in which the work is to be done. You would expect to find both of those somewhere or another in the four documents. Now, are you to say that some are to be looked at for some matters and some for others, or are all of them to be looked at for both purposes ? I think if there is anything material in any one of them for either or the two purposes, you must look at it for that purpose as well as for the other—that is to say, you must look at both. So far as they have got anything material to both purposes, you must look at them for both purposes to define the work, and also to show the mode in which it is to be done. Now, for which purposes are you to look at the bills of quantities ? The bill of quantities is the document which specially says, when you have got it incorporated like this, what the quantity of the work is to be. Mr. Lawrence's argument is that I must deal with it in the same way as in any contract or anything else we have to construe—that is to say, you deal with the specific things as overriding the general ones and governing them, just as even I think without a clause to that effect in a contract you would say that figured dimensions override some dimensions arrived at by taking the scale. It is usually provided for, but it is an instance of what you would do. Now I think that there is great doubt about the way in which one looks at it ; but on the whole I cannot help feeling that Mr. Lawrence is right in saying that if it was merely wanted to introduce bills of quantities for the purpose of showing the way in which the extras were to be priced, that had already been sufficiently done by Clause 7, and that it was unnecessary to introduce the words "bills of quantities" in the way in which this was done, unless it was intended to make that as the other documents with which it is coupled are, a part of what the contract work was and turning the indefinite block of flats into some definite amount of work. I confess that it is not the first time one has had experience of these building contracts, and I have always taken the view that when the bills of quantities were introduced (and I have seen one or two cases of that sort) in this particular way and made part of the contract, it is for the express purpose of varying the usual effect of those bills of quantities, making them part of the contract instead of a mere estimate of what it is. My view, therefore, not arrived at by any means without doubt, is that here so far as the bills of quantities and the plans can be put together and looked at as a thing in accordance generally with the plans and with the quantity of work shown in the quantities, so far as that thing is possible (and I take it that it is in these matters), my view is that then the quantities provide the amount of the work, and if in the course of doing the work the contractor is directed to exceed that amount of work for the purpose of making it accord with what it is desired to have in regard to the building, I think that then that is all extra, subject, of course, to the further things in the contract as to the mode in which it is to be done and so on.

I think, therefore, on the whole, that it is incorporated into this contract as a part of the description of the contract work, and that, therefore, apart from any question of negligence which there might possibly be, and which would have to be dealt with in a different shape, as I have said before, if the facts for that purpose only are admitted, the plaintiff is necessarily entitled to something beyond what he has been allowed.

I say, therefore, that my judgment, subject, of course, to the reference, will be on the construction of the contract for the plaintiff.

Mr. Duke : That would be a declaratory judgment. I take it that the plaintiffs are entitled to recover as against the defendant for work included in the plans and specifications, but not priced in the bill of quantities mentioned in the pleadings.

Mr. Justice Channell : I am not sure whether that expresses quite exactly my view. My view is that the whole of the quantities are introduced into this contract as part of the description of the contract work, and that, therefore, if he is required in order to complete the work to do more work than is in the quantities, he is entitled to have that as an extra. That is nearly the same thing.

Mr. Duke : The plaintiffs are entitled to have the work comprised in the plans and specifications, but not comprised in the bill of quantities.

Mr. Justice Channell : I think that must be so. But about the word "comprised" my view is that the plans do not go to quantity. I should not like myself to deal with all cases in a general form like that. I am not by any means sure that there might not be cases of accidental omissions from the quantities, for instance, of a thing that might not be clearly specified in the plans, and might not be part of the contract work like the flooring in the case you cited. I do not mean to put it like that. I mean to say that where there is a quantity specified which may be, for instance, a quantity of brickwork specified, that is the quantity to be done, and if in order to do a thing that makes a building in accordance with the scale of the plan you want to put more than you are to be paid for otherwise that will be regarded as an extra. But I should have to deal specifically with cases of things that everybody must understand are to be done, but which happen to be omitted in the quantities. I think the case in Hurlstone and Norman would cover that.

Mr. Duke : It is new matter and there would probably be a discussion in the Court of Appeal about it.

Mr. Justice Channell : I am assuming that, certainly.

Mr. Duke : I quite understand that it would be so.

Mr. Justice Channell : If you and Mr. Lawrence could settle the form between you I should be glad, and if you cannot you will mention it presently.

Mr. Duke : Yes. We shall have a minute of the judgment drawn up. As I understood your Lordship yesterday, you said you would stay execution and reserve the costs of this hearing till the action is disposed of.

Mr. Justice Channell : Certainly, and the Court of Appeal will make any necessary declaration if I am wrong. I will read you again my note if there is any doubt about it being correct—I mean of your agreement yesterday. "Evidence being given about this deficiency in the bill of quantities, agreed that if necessary these," that is, the discrepancies, "are to be gone into by an arbitrator, and the question of the construction of the contract to be argued first on the assumption, not admitted except for the purposes of argument, that dis-

ART GALLERY, SYDNEY.—PORTICO.

crepancies to that amount or to some other amount exist." That is the basis on which you are to go.

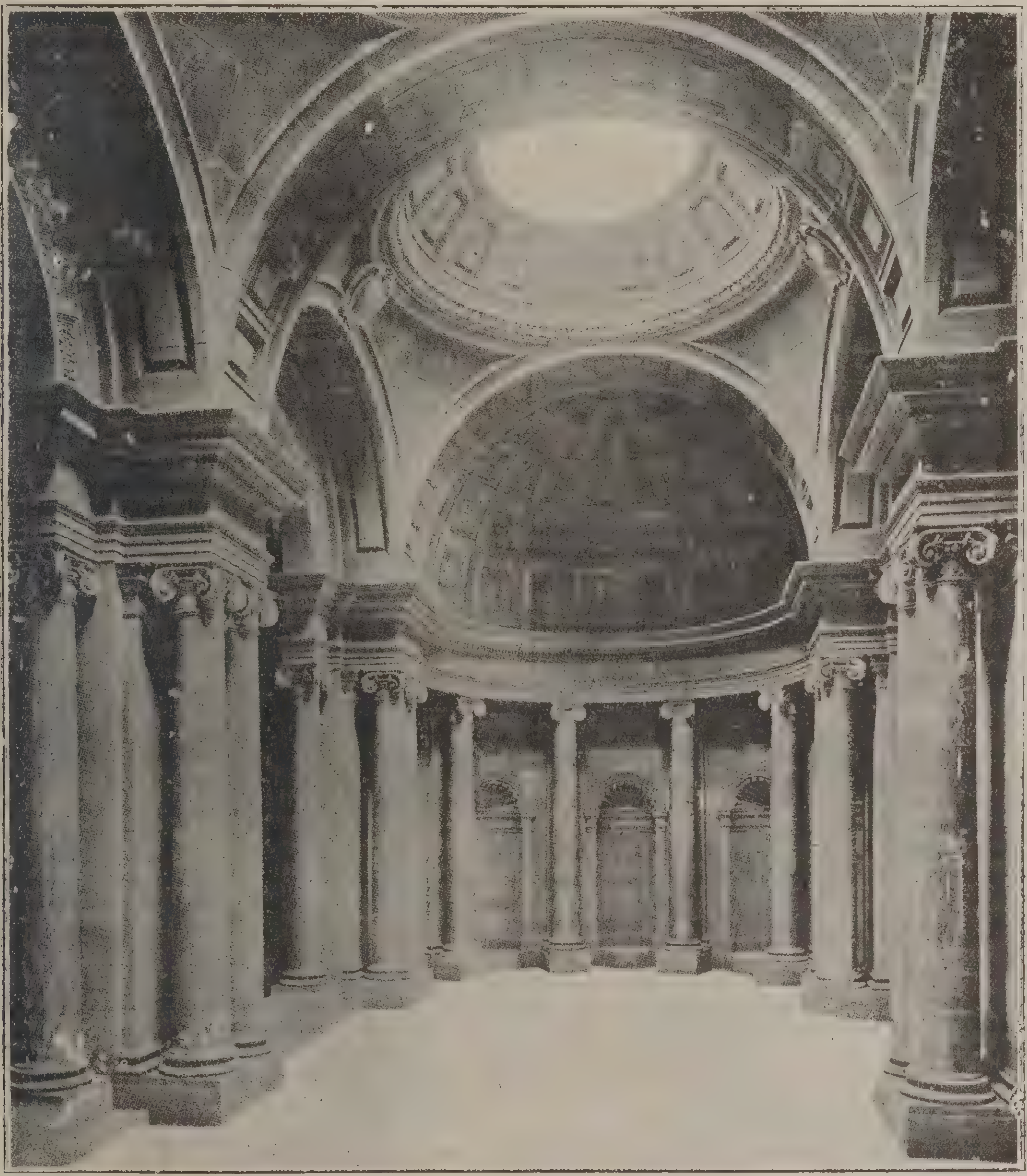
Mr. Duke: Yes.

Mr. Justice Channell: Upon the construction of the contract I decide that the bills of quantities are part of the description of the contract work, and that the whole of the documents must be construed together.

Mr. Duke: If your Lordship pleases.

NATIONAL GALLERY, SYDNEY, N.S.W.

THE Art Gallery of Sydney, which was designed by Mr. W. L. Vernon, the Government architect, cost up to the end of June, 1903, 67,488*l.* 5*s.* He says that he can with confidence rest the reputation of the Department of Public Works of New South Wales upon the merits of the gallery and other buildings from an architectural point of view. It is creditable to New South Wales to have established so important an aid to education. The building was commenced in 1895, although about that time the colony was suffering from the effects of the financial crisis of 1893. The gallery already contains several excellent paintings.



ART GALLERY, SYDNEY.—VESTIBULE.

Hogarth's House, in Hogarth Lane, Chiswick, was opened to the public last Saturday. It has been purchased by Colonel Shipway, and will be used as a museum, for which the admittance charged will be 6*d.* The necessary restoration has been supervised by Mr. Fred. W. Peel.

THE ROMAN FORT AT BROUGH.

THE results of the recent excavations at the Roman fort of Brough, about midway between Bradwell and Hope, conducted by Mr. John Garstang, of Liverpool University College, are stated in the Journal of the Derbyshire Archæological Society. It is considered established that Brough was the Roman station Anavio. The fort, as roughly defined by the excavations, is nearly a regular four-sided and walled enclosure, about 336 feet inside length and 275 feet broad, with corners rounded to a curve and an arched gateway at each side protected by flanking towers. The most important structure within the walls was the prætorium. The feature in which the greatest public interest is taken is the underground chamber, containing a well. During the excavation there were found numerous stones, animal bones, horns of the deer family and of oxen, a few small coins of the fourth century, three fragments of a second-century tablet, two Roman altars, a broken column, a large stone vessel, fragments of pottery and certain smaller objects. While excavating the chamber four fragments of a large inscribed tablet were discovered. The inscription tells of the work effected by the commander of Cohort I. of Aquitanians at a time when Julius Verus governed Britain and Antoninus Pius was emperor, about the middle of the second century. These fragments were all found in the pit or well within the prætorium, and it is reasonable to believe that the tablet itself was erected in the same vicinity to commemorate the completion of some work, possibly the building of the fort itself. Perhaps the point of greatest local interest is the name of the cohort, Cohors I. Aqvitanorvm. It is not suggested that this was a detachment specially detailed for engineering work. One of the altars found bears the words "Deo Marti," indicating its dedication to Mars. The objects found are being exhibited at the Buxton Museum. Mr. F. Haverfield has made some notes on the inscription on the tablet, which, he says, may be taken as showing that the fort at Brough was built or repaired or at least, occupied, about A D. 158, and was apparently rebuilt later. Melandra Castle, near Glossop, with coins of Domitian, Marcus, Julia Mæsa and Severus may have been occupied during the same period as Brough. Slack, near Huddersfield, with coins of Nero to Hadrian, may have been both occupied and abandoned sooner. Templeborough, near Rotherham, may have also dropped out of military use before the end of the second century.

THE WALLS OF BERWICK-ON-TWEED.

THE Secretary to the National Trust for Places of Historic Interest or Natural Beauty, Mr. Nigel Bond, in a letter to the Press calls attention to the proposal to demolish a part of the Edwardian town walls of Berwick-upon-Tweed. Much damage, he says, has been done in the past to the historic remains in the Border town, but sufficient has yet been spared to remind the inhabitants of and visitors to the town of its close connection with the great Plantagenet who there gave judgment between the rival claimants to the Scottish throne at the end of the thirteenth century. The proposed demolition is to be carried out in order that a modern dwelling-house may be erected, and the site thus enhanced in money value for the benefit of the freemen of the town. Resolutions expressing regret at the announcement which have been passed by the Society of Antiquaries and other bodies might be quoted to show the general feeling on the subject among those who have made archæology a special study, and who are capable of forming a just opinion on the comparative value of such remains. Can it not be brought home to the freemen of Berwick that they, as landlords, have duties and responsibilities as well as privileges, and that to increase the financial value of their land without regard to any other consideration may be to neglect those responsibilities? Letters deprecating the proposed destruction of the walls have been addressed to the Town Council by the National Trust and kindred societies, and it is earnestly to be hoped that they will reconsider their decision and prove themselves worthy guardians of the antiquities of their historic town.

The Rev. James King, the vicar, writes:—A short time ago a gentleman from the Board of His Majesty's Works called on me at St. Mark's Vicarage, stating that Lord Windsor, the First Commissioner, had deputed him to inspect and report upon the ancient masonry of Berwick. He produced from his portfolio a letter I wrote to the Berwick papers on the threatened demolition of Edwardian work, and at his request I accompanied him on a tour of inspection round the walls. The largest of three fragments of the old wall had been wantonly pulled down even while the right of building on the site was a matter *sub judice* in the Law Courts, and gazing on the blocks white as marble scattered over the grassy mound he expressed regret at such needless demolition. On noticing that the two fragments near the Bell Tower had a begrimed, neglected appearance, with a stagnant pool in the fosse bestrewed with broken pitchers and rubbish, he ejaculated, "This is pitiful, most pitiful." We inspected the Bell Tower, and from the existence of a Tudor arch in the stonework with other indications of late work, concluded that it belonged to the reign of Queen Elizabeth and was merely a restoration, or rather an imitation, of an ancient Edwardian tower that occupied this spot in days of yore.

It thus appears that the neglected fragments were hoary with the age of three centuries when the Bell Tower was built, and are, perhaps, about the only undoubted fragments standing of the Plantagenet wall that once stretched from the Castle eastwards to the large fort in the Magdalen fields, then ran southwards for about a mile to join the sea by the present malthouse on the Pier Road. The diadem of towers that surmounted the masonry have one and all been swept away, and the Edwardian wall itself now lies buried beneath the vast agglomeration of grass-covered mounds lying in wild confusion outside the more modern fortifications. The Commissioner was much pleased with the Tudor walls, remarking that they are superior to those of York and Chester, and that Berwick may be regarded as the best walled town in the whole kingdom. He made entries in his note-book, one of which was:—"Elizabethan walls under the superintendence of the War Department in excellent condition. Edwardian masonry under the care of the town utterly neglected." This record, I fear, is now stereotyped in His Majesty's Works Office, and remains a permanent obloquy on our borough. The Town Council last week sanctioned the demolition of the two remaining fragments of ancient work close by the Bell Tower, precious relics that amid all the changes and vicissitudes of thrones and dynasties have stood firm for 600 years, and link together the twentieth century with the era of the mighty Plantagenets.

This barbarous demolition is sanctioned on the plea that the site is wanted for the erection of a house, while the half of St. Mary's parish is unoccupied ground sufficient for the erection of a hundred such houses. The glory of Jerusalem, Troy, Rome, Athens, consisted largely in their colossal walls, and Berwick's fame largely consists in her ancient masonry. Take this away and our famous town is reduced to the level of a big, unknown village. The wanton pulling down of two precious relics of a glorious era will be an irreparable loss, not only to Berwick, but to the whole kingdom. Has the stigma of vandalism to be branded on our dear old borough?

The Recorder of Berwick, the County Court Judge, the British Archæological Society, the Society for the Preservation of Ancient Buildings and other learned bodies have raised their voices against this heedless destruction. Has the calm voice of reason and reverence to be silenced and the earnest pleadings of learned Associations to be ignored? Has patriotism to be wantonly outraged, and Berwick's fair shield marred with the brand of vandalism, for the paltry filthy lucre of sordid utility? Berwick, once the first seaport in the kingdom, the royal seat of kings, begirt with the Imperial walls of the mighty Plantagenets, this precious gem set by the silver sea, is now about to perpetrate an act that will cause irreparable loss I earnestly plead with Berwick Town Council to avert such a calamity.

The following resolution by the Berwick-upon-Tweed Arts Club has been forwarded to the Town Council:—"The Berwick-upon-Tweed Arts Club have heard with great regret of the threatened demolition of fragments of Berwick's old fortifications, and beg respecfully to lay before you the following considerations:—Deep and wide is now the public interest in the ancient walls of our good old borough. His Gracious Majesty the King is naturally interested in the Edwardian walls built by his illustrious predecessor, the greatest of the mighty Plantagenets, and has communicated on the subject with the Lords Commissioners of His Majesty's Public Works; the Secretary of State for War has commanded an officer of the Royal Engineers to inspect the old fortifications; the learned societies—historical, archæological and æsthetic—are watching with much anxiety the present action of Berwick Town Council, feeling that the demolition of relics reared in a great era of our national history would be an irreparable loss to the whole country. Through your moral influence the modest suggestions of His Majesty's representative, who has inspected the masonry, might be carried out without much difficulty, thus shedding honour on our councillors and giving joy to the nation."

NORFOLK AND NORWICH ARCHÆOLOGICAL SOCIETY.

ON Thursday in last week about sixty members of the Norfolk and Norwich Archæological Society made an excursion to Arminghall Old Hall, afterwards proceeding to Caistor Camp. When the Old Hall at Arminghall had been inspected by permission of Mr. Russell J. Colman, a short paper was read by Dr. Bensly. He said that the house was probably built in the time of Queen Elizabeth by one of the Mingays, of Norwich, probably William Mingay. The fine south porch, door, &c., and other architectural remains of the fourteenth and fifteenth centuries were probably brought thither from the Carmelite or Whitefriars Priory, Norwich, which was granted to Anthony Mingay at the Dissolution. A merchant's mark on a stone over the doorway was said to be that of J. Mingay, grocer. The entrance doorway is of rich Decorated work, with bold leaf ornament round the arches and jambs. In the hollow of the hood-mould are heads, and on either side, in niches having ogee canopies, pinnacles, crockets and finials, are figures. Above the arch, terra-cotta panels and two stone shields are inserted, the porch being finished with an embattled parapet. The inner doorway has a moulded and deeply-recessed arch dying on to the splayed jambs at the level of the springing of the arch. Over the arch is a square moulding, and in the spandrels are two shields. The oak door is of good Perpendicular design, with a margin of quatrefoils and cusped heads to the panels and this inscription:—"Orate p aia Mgr Willi Gladn qui fecit fieri Hc Hostiu, A^{o} X^{i}., 1487." This William Gladden was probably a notary public in Norwich and proctor of the Consistory Court, whose will, proved in 1484, directed that his body should be buried in the Carmelites Church at Norwich. Perhaps his executor removed the porch and doorways to Arminghall. Over the doorway figures are sculptured on a stone panel, and represent the fate of the disobedient prophet torn from his ass by a lion. On the north side of the hall a beautiful doorway is inserted. Vine branches, leaves and grapes are sculptured in the jambs and head. The lintel is of wood, carved in imitation of stone. Over the doorway are the royal arms, surmounted by a crown and with supporters. In an upper room of the hall is a fine old chimneypiece of moulded brick. The hall has lately been used as cottages, and is now somewhat dilapidated.

The church was also inspected, but was decidedly uninteresting.

The next stage was to the well-known Roman Camp at Caistor, which was inspected, by kind permission of Mrs. Green. A paper on the sites of Ad Taum and Venta Icenorum was read by the Rev. Canon Raven, D.D., F.S.A., who dealt with the routes and stations mentioned in the Itinerary of Antoninus and Peutinger's Tabula. On Peutinger's map he stated that Ad Taum occupied a position on a zigzag road running north-west to Branodunum (Brancaster). Mentioning incidentally that Sitomagus was certainly Dunwich and not Thetford, the essayist said that the route marked by Peutinger was certainly not Route IX. of the Itinerary of Antoninus, for Venta Icenorum was not even marked. The Tabula would permit of Tasburgh being Ad Taum, but that was a small and not sufficiently prominent station. There were only four "ventas" in Britain, and the name indicated the central fortification of the tribe conjoined with it. From Venta Icenorum (Norwich) to Sitomagus (Dunwich) the road went by Ber Street, Bracondale, Bergh Apton (where there was a small camp), and over the Waveney at Waneford, the Suffolk portion adjoining being known as Stone Street. This would fit in all right with Norwich, but there was no trace of a south-eastern road from Caistor.

The company then had a most pleasant walk quite round the fortifications, afterwards inspecting the church and its interesting font. By invitation from Mrs. Green, the delightful grounds of her residence were then invaded, and the Roman bath, a stone coffin and various antiquities dug up near by inspected. The bath is a rectangular enclosure of faced flint, about 18 feet by 20 feet. Close to it were discovered a number of silver and bronze Roman coins, half a quern and a quantity of pottery.

THE LESSONS OF THE BALTIMORE FIRE.

IN the *Architects and Builders' Magazine* (New York: W. T. Comstock) there is a very detailed article on the Baltimore fire by Mr. C. A. Miller, jun., from which we take the following conclusions:—

Out of the 2,100 or more buildings in the burned district scarcely half a dozen escaped serious injury, and less than a score more are in such shape that they can be utilised. Every one of these buildings claimed to be fireproof, but everything combustible about them was entirely consumed. The fact that there was only a limited quantity of it prevented serious damage or total destruction of the building. The steelwork in nearly every instance where protected by tile, brick or concrete, is in good shape, which justifies the claim that the fireproofing fulfilled its purpose. Had the windows and doors prevented the entrance of flames and blazing cinders it is more than likely that every one of the skyscrapers would have escaped serious damage. The weak point in all the buildings was the windows, although the wide wooden cornices of some of the buildings were the first to ignite. The metal roofs held back the fire, while skylights seemed to give ready entrance. Aside from a high wind there seemed to be no unusual circumstance to account for the spread of a fire which should have been confined to a single building or block into the worst conflagration the country has known for years. Baltimore is considered by business men as being well protected. There was no unnecessary delay in turning in an alarm and no scarcity of water. The few high buildings were not reached by the flames for hours after it started, and might be said to have delayed the march of the flames far more than adding to them.

Among the unfavourable conditions might be mentioned the narrow streets and alleys in the burned district. Many of the buildings were old, and the dried out lumber was like tinder. The sparks, cinders and blazing brands were carried ahead of the flames and piled up on sills, cornices and other projections, where they were formed into a blaze which attacked all woodwork within reach. The almost total lack of wire glass and shutters permitted the brands to be driven through the light glass, when it could readily attack the interior.

Other cities are already profiting by Baltimore's misfortune. That a fire could gain headway under the existing conditions and practically burn itself out, although combated by a hundred fire companies equipped with the most modern engines, fire boats, &c., and commanded by experienced fire chiefs, has awakened in every large city the thought that the same might occur in their midst. Structures of the most approved material and of the best construction yielded to the flames, but in a different manner from those in which less attempt had been made to prevent the spread of the flames. In the former the walls, columns, floors, &c., are still standing, and although the loss is great, enough of the building is left to refurnish it. Those in which little or no attempt at protection had been made were consumed, leaving only heaps of ashes and tangled *débris* to mark their sites. Even the brick walls are in no condition to rebuild, and when they did not crumble of their own weight, have been brought down by cables or dynamite.

There are many cities which are in no better shape than Baltimore was, and few stood better in insurance circles. Attempts will be made to correct the deficiencies and avoid a repetition of the disaster, and while the experience has cost Baltimore a large sum, others will learn the lesson, and in so doing not only save in the cost of a fire, but also have their buildings in better shape.

Among the visitors at Baltimore were the owners as well as the architects and builders of some large warehouses in Pittsburgh. The information gathered will be carefully considered in their buildings, and there is no doubt but that Pittsburgh will be reminded from time to time that danger threatens certain districts, and Baltimore will be held as having had similar conditions "before the fire."

New York city is not much better able to cope with a fire than Baltimore. The water-supply is not nearly as adequate, and should the same conditions prevail it is agreed by many that the blaze could traverse Manhattan at will. The close proximity of the salt water, however, provides a safeguard which is being carefully considered. It is proposed to lay high-pressure mains of ample size in such streets as can be easily reached in case of any fire. As salt water from the rivers would be used the valuable filtered city water would be saved, and the additional pressure possible would practically insure drowning out any fire before it could gain headway.

The advisability of a separate system for fire purposes appeals also to Chicago, and an engineer has already prepared plans for a system to adequately protect the business centre of the city, in which are located all the skyscrapers. The plan as designed has a capacity of 30,000 gallons per minute, and the water leaves the pumps under a pressure of 300 lbs. per square inch, which would be reduced to about 200 lbs. per square inch at the hydrant furthest from the pumps. After connecting with hose to stand-pipes on buildings the system would discharge 9,000 gallons per minute at a height of 335 feet above the street level. The engineer who prepares the plans presents estimates of a little over 3,000,000 dols. as the cost of installing the system.

Some such plan will doubtless be followed in Baltimore. As most of the streets will be torn up in building, adequate water mains and a sewerage system should be laid. The city needed it before, and in the near future will feel the need of it even more. At this time there will be very little interference with business, and it never can be done to better advantage, as the future needs are pretty clearly known.

The framing of a suitable building ordinance will be one of the most important as well as one of the most difficult duties of the city council. With all the experiences of other cities and the examples of failure as well as success, it is still hard to so draw the lines that there will be neither laxity whereby the unscrupulous might take advantage of the Act, nor exactions which would work a hardship to the well-meaning builder. While the best results were found in the buildings of steel frame with tile or concrete arches, it cannot be just to insist that a small store building shall be of that construction. Neither can it be claimed that, as the contents of the skyscrapers were destroyed, that the same results or no worse to the tenants would have occurred had the entire structure been frame. The vulnerable parts of 90 per cent. of the buildings were the door and window openings, cornices and decorations and skylights. The door and window openings could easily be protected by outside shutters, which are abundantly able to withstand any ordinary fire if on one side only, or by wire glass in metal frames and sash. Where the appearance might be marred by either of these, as in the fronts, inside shutters could be fitted. Very few of the older buildings were thus equipped, while there were several of modern construction having neither outer nor inner shutters which passed through practically unhurt. The building occupied by the Government for appraisers' stores, although seventy years old, may also be taken as one of the older buildings in which the window protection was adequate, although probably the building was subjected to a fiercer flame than the builders considered.

It would be possible, as is frequently done in mill millings, to provide the openings with shutters having automatic fusible fastenings in which the fuse melts when a certain temperature is reached and the shutters drop into place and protect the building from outside flames, and would also protect the adjoining buildings should the fire be inside. Had the first building and the adjoining ones been thus protected, there would have been little chance for the fire to spread.

While the wooden cornices and flimsy wooden "decorations" were not entirely to blame for the enormity of the loss, they deserve more censure on account of their lack of necessity on the building. Adding nothing to the utility and little to looks, they form, as it were, an inverted waste-paper basket filled with inflammable material ready to catch the upward spark of flame. Once caught, no worse construction could hardly be devised to assist the combustion or defy the efforts of the firemen to subdue it. Galvanised iron, if supported on iron brackets, has the advantage of being non-combustible, but at best is an imitation of what would be better in the material which it represents.

But however much condemnation is heaped on defenceless windows and imposing imitation cornices, the skylights must come in for a word. In at least three instances the flames entered "fireproof" buildings in that way. In two of these, the Bank of Commerce and the International Trust Company, it required a brick wall to break through, but once inside the flames destroyed everything combustible. In another building used for appraisers' stores the skylight was a modern addition with no pretence of being fire-resisting, and was wholly to blame for the damage done there.

Constructing the skylight frames and sash of all metal with wire glass would probably have saved this building entirely, but it would require strong covering to protect it if the walls of the adjoining building tower over it and fall upon it during a conflagration. During such times very little water can be thrown on the building, so no pains should be spared to effectually close every point where flames might enter.

Besides all these causes must also be considered the "party" wall, and in connection therewith adjoining walls. There were probably few cases of fire passing through a party wall, but unless heavy enough to allow the rest of the building to fall without being affected, it will prove to be of more danger than use. Its extra weight, however, is in its favour, especially if one building is higher than the adjoining. Several buildings were damaged by the adjoining single walls falling upon them, but there is also one instance where the party walls were taken out by the wooden joists on one side, while the adjoining building, with reinforced concrete columns and floors, is still standing.

In connection with cornices and party walls the matter of parapet walls should be considered. A wall 3 or 4 feet high between two roofs would keep practically all the heat on one side. A high wind would carry most of the sparks and coals over the roof. If the front and rear are likewise run up, the risk from adjoining buildings would be materially lessened. In the rebuilding of Paterson, N J., after an 8,000,000 dols. fire, particular attention was paid to this part of the building. These remarks would apply principally to the danger from the outside, or what is termed in insurance parlance the "exposure hazard." There is also the danger from internal fires, although the construction of the building may resist the fire in a neighbouring or contiguous building.

Sprinkler systems were practically unknown in the fire district, the only one being the outside system on the O'Neill building. It is probable that many of the new buildings will be equipped with some form of sprinklers. The several systems in use allow the owner a wide range to choose from, and judging from the one place where used, they will doubtless aid greatly in checking the spread of the flames. Where an automatic system is properly installed the least it could do would be to delay the progress of the flames, allowing the firemen to check them at some other unprotected points. Each building thus equipped would then become its own fire company, and an alarm would doubtless be turned in much sooner than by a watchman on his rounds.

The height of the buildings should not be carried beyond a point where adequate protection can be given, and small tanks on the roofs should not be depended upon for too much of the protection. The higher one goes in the ruined skyscrapers the greater the damage appears. A sprinkler system attached to tanks, with the possibility of connecting with pumps in the basement or a steamer in the street, would doubtless fully protect any building now erected.

Brick entered largely into the construction of the walls in the burned area, and it is surprising to see in what good shape they still are. Although the mortar has almost entirely disappeared, the common brick are as good as new, and will doubtless enter largely into the new walls. Many of the walls stood after the fire, but the life was gone out of the mortar, and when pulled down scarcely a particle of mortar adhered to the brick. The face brick in some of the walls did not do as well as the common brick, being badly chipped and pitted. As was expected, the massive granite bases and fronts went to pieces and scarcely a block remains that is intact. While some pieces are seen to be badly damaged, it is probable that other cracks do not appear on the surface. Marble suffered nearly as much, and while some can be repaired by rounding edges, &c., a large part of many of the fronts will have to be almost entirely replaced to get a safe structure and present a satisfactory appearance. Several sandstones were used, and these, too, show the effect of the heat, but in a lesser degree than the marble. Terra-cotta was a disappointment to many, the face peeling and chipping as if the heat came suddenly upon it. In some cases the backing or supports seem to weaken or to give way, as in the Equitable building and in the court of the Continental Trust.

Reinforced concrete did not enter into the construction of enough buildings to determine its real value. While used on most of the small bank buildings, the heat was not as great as in the other buildings, and for this reason the adherents of such construction might be unduly elated over its performance. Every building in which it was used is still standing, and can be readily returned to its original condition. Where the concrete was carried well below the supporting I-beams, the metal was in no place exposed to the flames. An advantage of concrete over tiles for floors is in the placing of safes upon it. In many cases the castors crushed in the tile and so destroyed the arch and even fell through several floors, but in no case did a concrete floor give way.

Small parks in the business district find many adherents and opponents. As a breathing space they have their place, and as a break for such a fire as this they would be valuable. No flames would reach across them and the firemen would have a better chance. The possibility of another such catastrophe is so remote, under the precautions which will be taken in rebuilding, that the claim would have little weight. The opponents balance these arguments with the undeniable statement that the district is practically deserted during the evening and parks would simply invite a disorderly element such as make their homes near the docks or the business district. Baltimore is already well provided with parks in the residence districts and it hardly seems necessary to create any more, especially in a district which will be given entirely to business.

Plans for the rebuilding of Baltimore on a grander and greater scale than before are already under consideration. Under the direction of the Mayor, committees are preparing reports on the advisable improvement over the former plan. The activity in the study of "city building" now going on in Europe, as well as in America, giving time and thought to the preparation of plans for grouping both public and private buildings in their central districts, cannot but have a good effect on the new arrangement of streets, buildings, parks, &c. Baltimore will have the experience of cities which have spent millions in their improvements, and should not fail to profit by it.

DISCOVERIES IN CRETE.

IN a letter to the *Times* Mr. G. A. Macmillan, the treasurer, writes :—I have to-day received two telegrams from Crete, which may be of interest to those of your readers who are following the operations of the Cretan Exploration Fund. Before reproducing them, I ought to say that about a fortnight ago, on learning from me that recent appeals for support had brought in very little, and that our available funds were exhausted, Mr. Evans telegraphed to me that he must in that case close down the main part of his work, though the prospect of further discoveries was particularly good. Since then, nearly 200*l.* have come in, so that I was able to give the explorer some slight encouragement. This explains the opening sentences in the following telegram sent by Mr. Evans from Candia on May 29 :—

"Thanks for letters. Situation better than had supposed. North side [of] new paved way west of theatre [have] struck important palace-dependency. Apparently magazines of arsenal. Rich deposit of inscribed tablets relating to royal chariots, others enumerating arrows, and near them great horde [of] bronze arrow-heads with remains of their [? three] wooden chests and official sealings. Thus for the first time documents and objects [are found] in juxtaposition. Considering peculiar interest of discovery hope to continue work so far as to excavate section of building, but great depth of earth to remove."

I shall now at once send out to Mr. Evans the 200*l.* available, but unless further contributions reach me immediately, this promising work must be brought to a conclusion.

From Palaiokastro, in Eastern Crete, where important excavations are being conducted on the site of an ancient town by members of the British School at Athens, Mr. Bosanquet, the director of the school, sends me the following telegram :—

"Important discoveries. Doric inscription [with] ritual hymn to infant Zeus, locating sanctuary [of] Dictæan *Zeus* here. Also two exquisite ivory statuettes of children in Minoan house."

This announcement is particularly satisfactory, because the hope of finding this well-known sanctuary of Zeus was one of the main considerations which led to the excavation of this site.

It had been hoped that the managers of the Cretan Exploration Fund would be able to afford 500*l.* during this season towards the work at Palaiokastro; but unfortunately the state of the fund has not so far allowed them to devote more than 200*l.* to this object out of the general receipts, though a previous donation of 100*l.*, earmarked for Palaiokastro, has recently been supplemented by a similar grant of 25*l.* from the Fitzwilliam Museum at Cambridge. In view of the discoveries now announced, we should naturally be glad to have more funds at our disposal. Cheques will be received and acknowledged.

JOHANNESBURG ARCHITECTURE.

To transform a mining camp into a well-built city is no light task, but with what speed it can be accomplished Johannesburg offers perhaps the best illustration in the world. Owing to the depression building operations have not been so extensive for the last few months as they were in the period immediately preceding, but notwithstanding this, says the *Transvaal Leader*, the returns filed with the building surveyor at the municipal offices show that in January 150 new buildings and 30 additions and alterations were sanctioned; in February 162 new buildings and 39 alterations; in March 186 new buildings and 44 alterations; and in April 131 new buildings and 30 alterations—making the respective totals 629 and 143. The municipal by-laws provide that no building shall be more in height than 1⅔rd times the width of the street it faces, and in no case shall a building exceed 140 feet in height. This very wise provision has been copied from the Chicago regulations. In that city of mushroom growths experience has proved how potential for evil are the huge steel structures which are scattered throughout its limits, and although the Masonic temple in that city is 287 feet high, no other buildings exceeding 120 feet in height will be sanctioned.

Two impressions are prominent amongst those gathered by the visitor to Johannesburg—one is the lack of imposing churches, and the other the total absence of self-contained public offices, with the solitary exception, of course, of the utilitarian structure on Plein Square. The post office in its present condition is an eyesore, but already workmen are engaged on the erection of another storey and the tower. The additional storey will be much in keeping with the present structure, while the tower will rise 130 feet above the pavement. The clock will be about 20 feet below this. This is practically the only public building on which men are employed, but the plans for the new drill-hall have been accepted. This building will be erected on the site of the old gaol in Plein Street. It will be the largest hall in South Africa, and will measure 80 feet by 150 feet, twice the size of the larger hall at the Wanderers. This will be built of brick, with the roof constructed in one span, the largest in the country. Plans for at least two new theatres and one new music-hall have been drawn up, but the erection of any of these has not been commenced. A town hall and a new fire-station are also matters which will call for attention later.

As already mentioned, the lack of good church buildings is a feature of this cosmopolitan city, but it is not long to remain one. The Dutch Reformed Church worshippers have already a fine building in which to conduct Divine worship, whilst the Presbyterian body will shortly have a magnificent church in Noord Street. Work on this edifice is to be commenced at once. The building will cost 16,000*l.* or 17,000*l.*, and will be surmounted by a 90-feet spire. A large underground hall will be a feature of this building. The Wesleyan community have also had prepared plans for a beautiful new church, but no contract for its erection has yet been made.

Buildings creditable to any city in the world are to be found in plenty in the streets of Johannesburg, and these are now being supplemented by structures which are calling forth the efforts of the finest architects and builders in the country. Eckstein's magnificent block, towering 120 feet over Commissioner Street, is almost completed, whilst the excavations for the new National Bank premises, which will adjoin Eckstein's and face Market Street, are already in progress. These bank premises are being erected by the same architect and builders, and on a similar plan to those employed on the offices of the famous mining company, and the result will be a splendid block just twice the size of the present dominating structure. The steel structure of the Carlton Hotel is well under weigh. This was to have been raised 100 feet above ground, but at present the plans are accepted for two storeys less—about 75 feet. For the foundations of Barnato's new buildings the excavations are already in progress, and it is intended to rear this to a height of 104 feet. Stuttaford's new premises will be a magnificent specimen of architectural skill when completed, and they will be raised to the same height as Eckstein's. The Rand Club—certainly one of the finest blocks in the Southern Hemisphere—is nearing completion, the Walter Block in Eloff Street, another beautiful building, is already occupied, while work on a splendid new structure for the Standard Bank is in contemplation. Plans for extensive new warehouses for Messrs. Cleghorn & Harris have been passed. These will be erected in Eloff and Kerk Streets, and will measure 200 feet long by 100 feet high. Amongst other commercial ventures are new premises for Mr. Henry Sacke—opposite the Carlton—and the fine shops to be erected by Mr. Rosenberg on the site now occupied by some wretched shanties just opposite the Sunderland Hotel.

South Africa cannot yet boast any distinctive type of architecture. In the suburbs of Johannesburg, however, there are indications of a compliance with local conditions in the building of dwelling-houses which is not to be found to the same extent elsewhere. The ornate is being neglected for the simple design, the architect appearing to depend for his effect more upon verandah construction, depression of windows and doors and overhanging eaves, than upon elaborate ornamentation. There is also a tendency to do away with passages, and, indeed, in some cases there has been a reversion to the old Roman atrium, where access is gained to a courtyard by a small porch, all the rooms opening off the enclosure. The by-laws provide that one-tenth of the floor area shall be devoted to windows, and this probably accounts for the pains which have been taken to provide ample light and to make the windows so essential a feature in the general plan. From the purely æsthetic view, at any rate, Johannesburg contains dwellings which may claim precedence over those of any other South African town.

It is interesting to note that the suburbs of the city are growing rapidly, the impetus given to building by the tramway proposals being a very strong one. The most rapid advance has been in the north-west—the vicinity of Melville and Richmond. In a slightly lesser degree Troyeville and Bellevue East are participating in the attentions of architects, whilst a considerable amount of work is also going on in Turffontein and Rosettenville. Very little is being done in the new northern townships, and there is little development to record in the west, except at Newlands.

TESSERÆ.

Treatment in Painting.

The completion of a man's work in art should be gauged according to the standards he has chosen to work within. While one painter may endeavour to convey to the mind immensity of space and express himself, as did Patrick Nasmyth, by using small brushes and making microscopic dots, another, such as Constable, with the same intention may find it more congenial to work with large brushes, giving great blottesque markings, and both achieve the desired result; thus making it evident that the mere consideration of large or small touches, rough or smooth surfaces, is inadequate on a question of finish. In regard to the matter of the proper treatment of detail and its relation to finish, there is general misunderstanding as to what artists desire to insist on. It is popularly supposed that what the painter often wants is an excuse for slipshod smudging and blotching, which will conceal his ignorance, and save him a deal of painstaking study. The conscientious efforts of the pre-Raphaelites in this country, and later of Bastien-Lepage in France, have demonstrated, however, that without a broad vital impression unifying the whole, such labours, even in master hands, are unable to produce that living result which is satisfactory to our humanity, however interesting they may be as honest searching after truth. Even the evident intensity of such work, much as it enlists our interest, fails to satisfy us. Your true artist must give you, no matter what he leaves out, that living unity of impression which constitutes his thought about nature, and which vital impression may be stimulated in him and conveyed to others either by nature's magnitude or its minutiæ. It is this vital impression which is ever the main motive in such differing works as the classical Elgin Marbles—the type of large simplicity; the Mediæval work of Leonardo and Botticelli, remarkable for their research of detail, subordinated to perfect unity; and the romantic modern work of Corot, in which the wonderfully living impression of nature is got, not by merely imitating the outer facts of nature, but by making an abstract of essential truth and presenting it in a beautiful artistic form.

Orthographic Projection.

Under the term orthographic projection Thomas Bradley has included not only projection made by a system of parallel rays perpendicular to the plane of projection, but also projection by a system of parallel rays oblique to the plane of projection, and what has been generally called orthographic projection he calls plans or elevations, accordingly as the plane of projection is supposed to be horizontal or vertical. Plans and elevations of common buildings are the easiest description of geometrical solids, being generally rectangular parallelopipeds, having two faces parallel and four perpendicular to the plane of projection. Bishop Horsley, in his "Elementary Treatises on Practical Mathematics," and Professor Vince call that species of projection in which the plane of projection is perpendicular to the rays by the term orthographical projection in its proper restricted sense. The projection of the sphere made by lines perpendicular to the plane of projection is called properly by all authors the orthographical projection. Professor Young, in his "Treatise on Analytic Geometry," employs the term orthogonal projection in its limited sense, and very properly, as the word "ortho" signifies right. In geometry the words right and oblique are contrasted together, as a right cone, a right cylinder, &c ; an oblique cone, an oblique cylinder, &c Projection, therefore, whether considered from a system of converging or parallel rays is only right or oblique. In that species of orthographical projection in which the right-lined representations have the same proportions among themselves that the originals have, an improper use is made of the word perspective (introduced by Professor Farish) by calling this species of representation isometrical perspective instead of isometrical projection. By such an indiscriminate use of words those who have read one author will get into confusion when they come to read another.

ROYAL ARCHÆOLOGICAL INSTITUTE.

AT the ordinary meeting on Wednesday afternoon at No 20 Hanover Square, Sir Henry Howorth presided. The first paper, by Mr. C. R. Peers, on "The White Monastery," was illustrated with plans and drawings. This ruined religious house is near Sohag, in Upper Egypt, about 310 miles south of Cairo, on the western edge of the Desert. Its foundation is ascribed to the great Coptic saint, Shanûda, in the fifth century. It was then held to be the largest church in the world, and its founder called it Jerusalem. Within the enclosure there lived 4,000 monks and nuns. The remains consist of the monastic church, part of which is still used for sacred purposes, but the inhabitants are now represented by an illiterate Coptic priest and some nine or ten families, who occupy houses within the walls, and use the narthex as a common receptacle for their rubbish. The attention of Lord Cromer has been called to the ruined condition of this early monument of Christianity in Egypt; it is hoped that some money will be set aside for clearing the site, and the authorities of the Coptic Church have been communicated with on the subject. Mr. P. M. Johnston exhibited and described some sketches of the wall-paintings recently discovered in the little chapel of Shorthampton, Oxfordshire, formerly served by the Benedictine monks of Eynsham. They range from the end of the twelfth to the middle of the fourteenth century, and are of great interest. One appears to be unique in English ecclesiological art—the story of the Child Jesus making birds of clay and endowing them with life. The thanks of the meeting were unanimously given to the authors for their papers.

Correspondence

[*The Editor does not hold himself responsible for opinions expressed by the writers.*]

Open Lanterns.

SIR,—Could you or any of your readers inform me of any examples of Presbyterian churches in England having towers with open lanterns over the intersection of nave and transepts, and whether they have been satisfactory as regards acoustics? In *The Architect* of July 26, 1873, a design by Mr. E. C. Robins, architect, for the late Rev. Newman Hall's church is given. Is the result satisfactory as regards sound?—Yours truly, JAMES CHALMERS.

Central Buildings, 93 Hope Street, Glasgow.

GENERAL.

The Prime Minister considers it is not advisable to throw open the design of the memorial of the late Lord Salisbury to general competition. The site will be at the western end of the Abbey. The selection of the sculptor has not yet been determined.

The Clerk to the London County Council has invited the metropolitan borough councils to appoint delegates to attend a conference at the County Hall on July 7, for the exchange of views as to the result of the experience gained in the administration of the Public Health (London) Act, 1891, and to discuss any general principles the adoption of which such experience shows to be desirable, with a view to the provisions of the Act being equally and uniformly enforced in the several districts of London.

The Kent War Memorial was unveiled at Canterbury last Tuesday. The monument, which is about 34 feet in height, is an obelisk of grey polyphant stone, consisting of a pyramid rising out of a spreading base. On its southern side is the bronze figure of a soldier, with a laurel wreath above his ead. On the other three sides are large panels, to be filled ith the names of those of the East Kent regiment who died from wounds or disease in the campaign. The designs were prepared by Mr. W. D. Caröe.

The Nave of the new cathedral, Belfast, of which Sir Thomas Drew, P.R H.A., is architect, was opened on Wednesday by the Lord-Lieutenant of Ireland, Earl Dudley.

Colonel Langton Coke, R.E., has held a Local Government Board inquiry at Woolwich town hall into the application of the borough council for sanction to borrow 40,000*l.* for the erection of baths and washhouses on a site in High Street, Plumstead.

The Metropolitan Water Board will receive applications for the office of chief engineer to the Board. The officer will be required to give his whole time to the service of the Board, and he must not be directly or indirectly engaged in private practice or other paid employment. The salary will be 2,500*l.* a year. Applications must be delivered not later than the 10th inst.

An Inquest was held on the 31st ult. at Westminster concerning the death of William Thomas Creed, sixty-four, an architect, lately residing in North Kensington, who died at Drury Lane on Saturday last just before the matinée of "Lohengrin." Dr. Freyberger, after a post-mortem examination, said that death was due to sudden failure of the heart, accelerated by exertion too soon after a meal. A verdict of "Death from natural causes" was returned."

The Managers of the Craven Fund, Cambridge University, invite applications from graduates of not more than five years' standing from the completion of their first degree for a studentship of the value of 200*l.* The studentship is for the furtherance of advanced study or research away from Cambridge in the language, literature, history, archæology, or art of ancient Greece or Rome, or the comparative philology of the Indo-European languages. Applications may also be made for grants out of the annual sum of 40*l.* for the furtherance of research in the above-mentioned subjects.

The St. Petersburg Academy of Fine Arts will hold an autumn exhibition of Verestchagin's pictures and drawings. The widow will lend all her husband's unfinished works, including a sketch of Admiral Makaroff on the bridge of the *Petropavlovsk.*

Mr. Percy G. Scott will read a paper on Monday next before the Society of Engineers, entitled "Notes on Railway Surveys and Design in New Countries"

The Central Committee of the Munich International Art Exhibition of 1905 will honour the memory of the late Franz von Lenbach by holding an exhibition of his works next year. The exhibition will cover the entire artistic life of the great painter.

The Dispute at Port Penrhyn, where the slates are shipped, has been exaggerated. Eleven men only were affected, and of these seven have since applied to be reinstated on the old terms, and have been informed that their applications will be considered. The places of the other four have been filled up.

At Tarquinia 260 tombs, dating back some 3,000 years, and containing helmets, breastplates, gold amulets and vases, have been excavated. The collection will be offered for sale after a fourth part has been set aside for the Government.

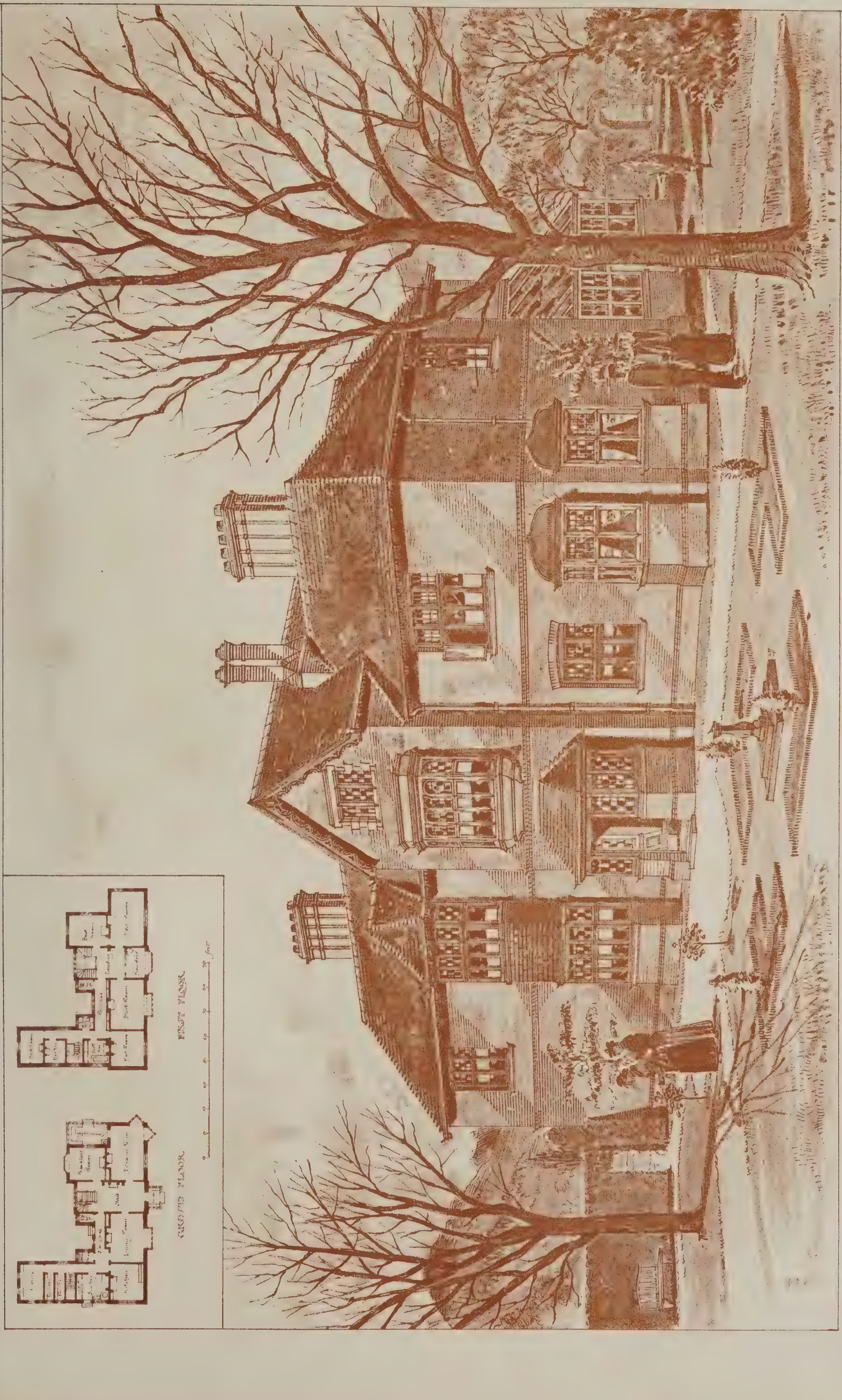
Mr. Akers-Douglas, M.P., has officially stated :—"The departmental committee, to whom was entrusted the task of examining the many important and complicated questions raised by any suggestion of extending and amending the existing Workmen's Compensation Acts, are pressing forward the consideration of their report with all possible speed. When the report is in my hands no time will be lost on my part, but I cannot fix a date for the introduction of the Bill."

The Ancient Church of St. Peter, Astley, near Kidderminster, has been partially restored at a cost of 2,400*l.* under the direction of the Rev. M. B. Buckle, rector, one time member of the Institute of Architects.

Professor von Herkomer has informed the Council of the Herkomer Art school at Bushey that he severs his connection with the school, and that this determination must be accepted as final. The Council sees no alternative but to close the school and wind up the company. An extraordinary general meeting of the members will be held on Tuesday next.

The Union Engineering Building is the subject of a competition limited to six American architects. It will be remembered that it is the outcome of a gift of 1,500,000 dols. by Mr. Carnegie for the erection of joint headquarters for three engineering societies. Professor W. R. Ware is acting as architectural assessor.

The City and Suburban Homes Company, of New York, have opened thirteen model tenement houses. They are divided into two, three and four-room apartments, with fireproof halls. Every room has light and thorough ventilation. Each apartment has private hall and toilet, steam radiators, gas range, two porcelain tubs and other conveniences. The rents are said to be moderate.



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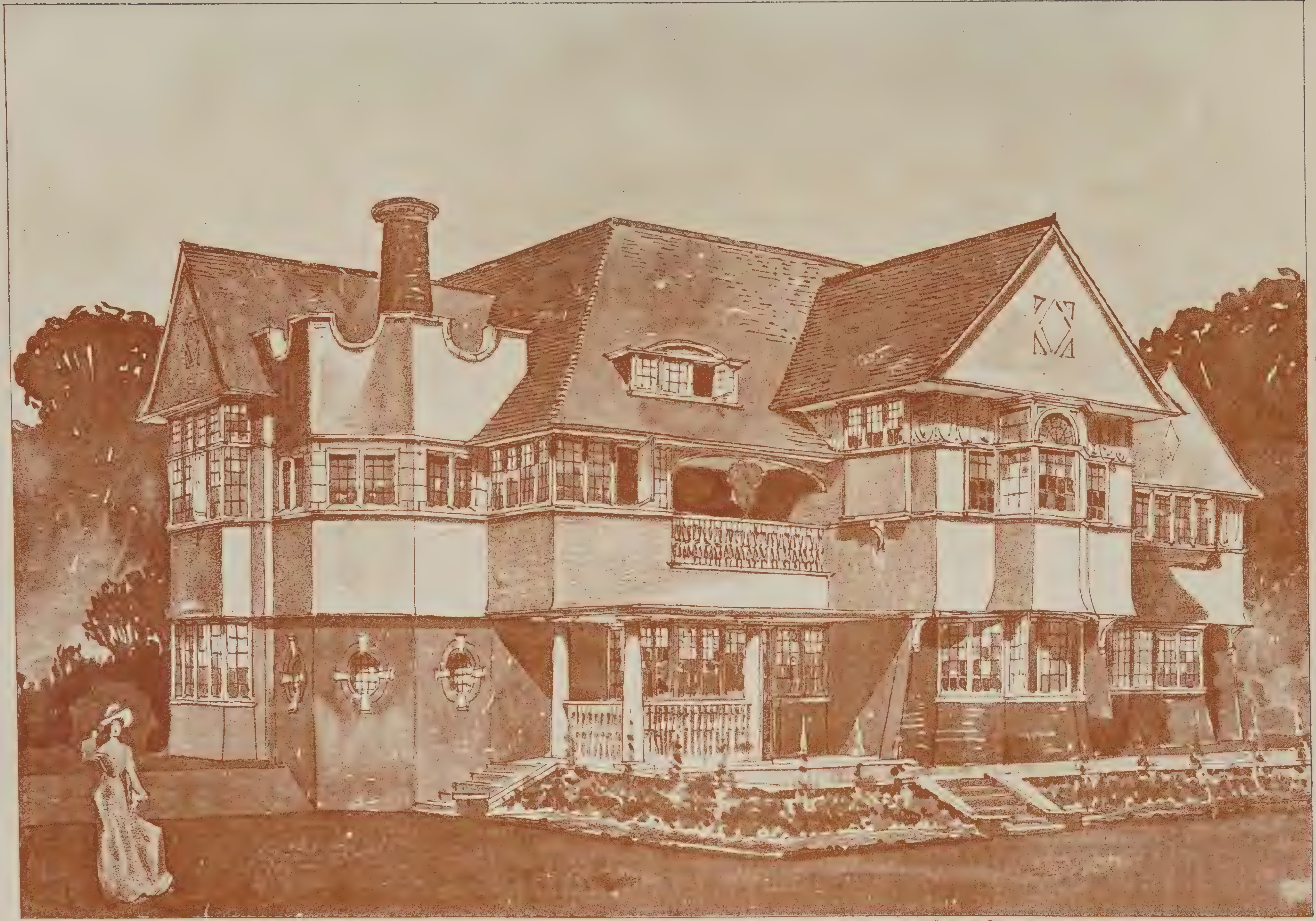
THE GREAT HOUSE, LLYSWEN, BRECON.

S. P. REES A.R.I.B.A., Architect.

The Architect. June 3rd 1904.



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Design for a Country House.

By H. STEWARD WATLING, F.S.A.

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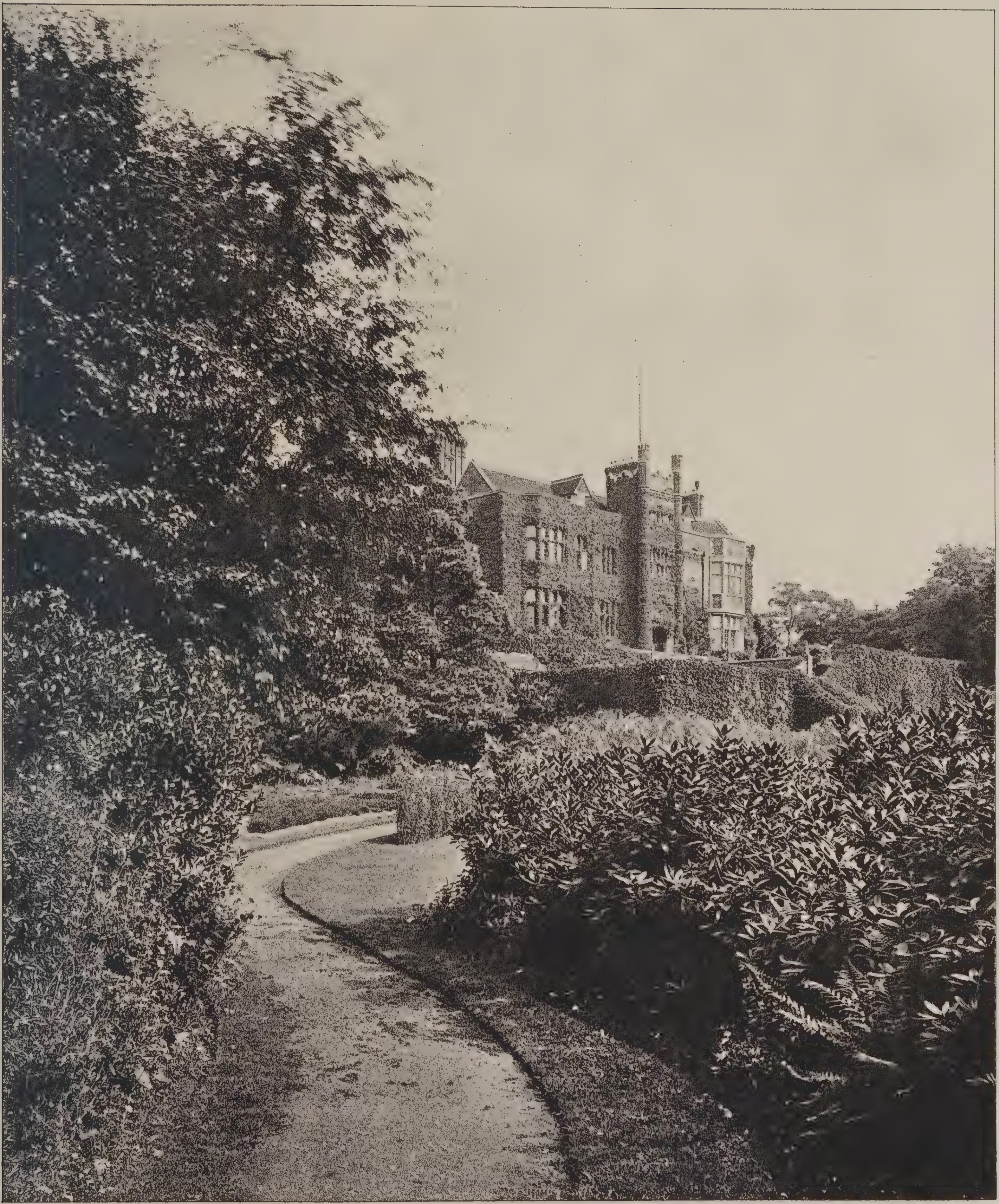
The Architect, June 3rd 1904.



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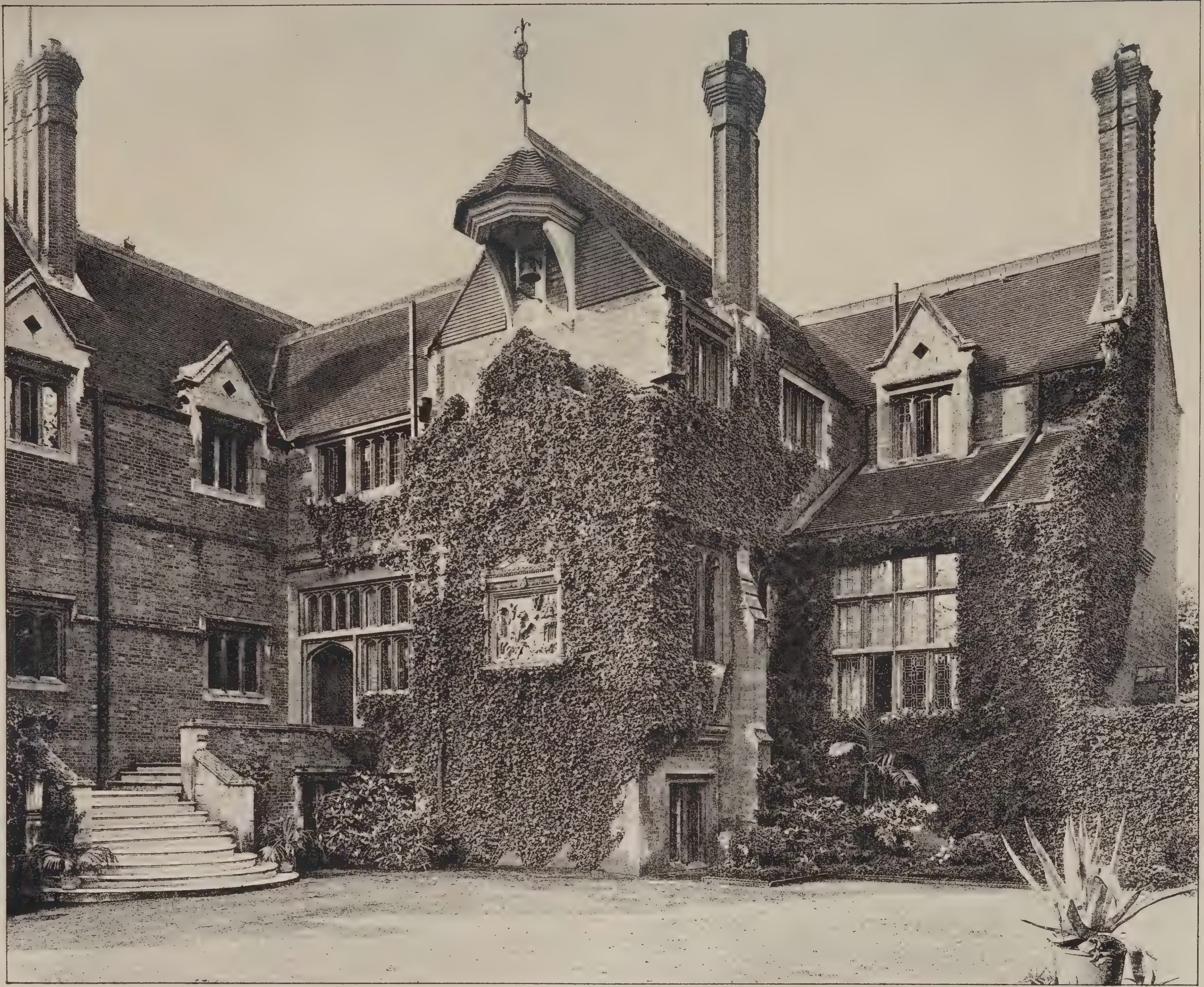
"THE KNOLE," BOURNEMOUTH: SOUTH FRONT.

The late JOHN D. SEDDING, F.R.I.B.A., Architect.



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"THE KNOLE," BOURNEMOUTH: NORTH FRONT.

The late JOHN D. SEDDING, F.R.I.B.A., Architect.

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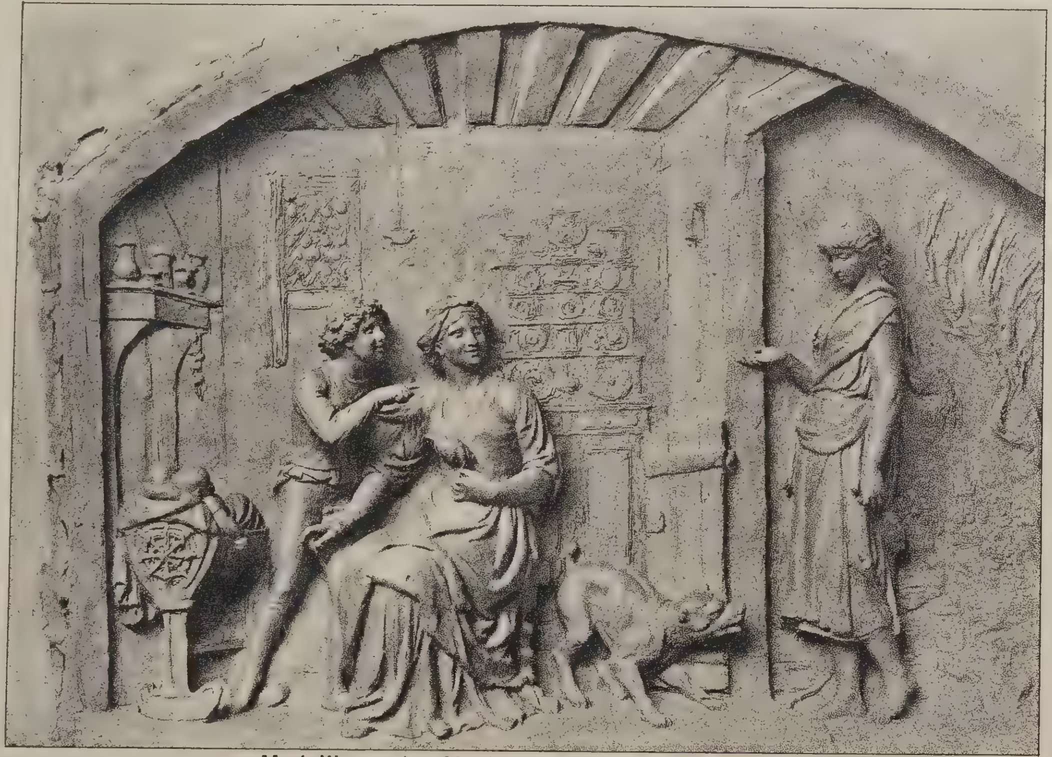
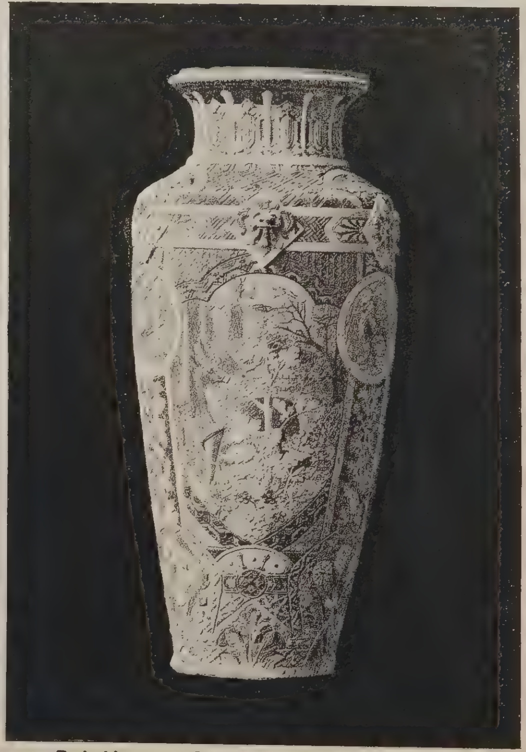


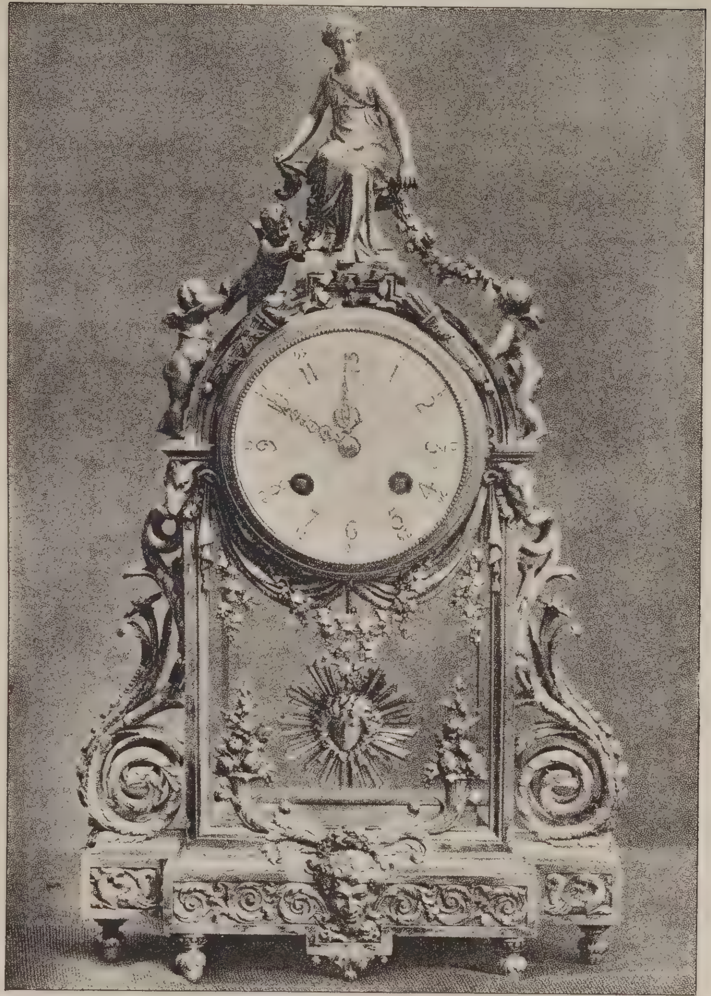
Modelling: "La Cigale et la Fourmi" *(Lafontaine).*



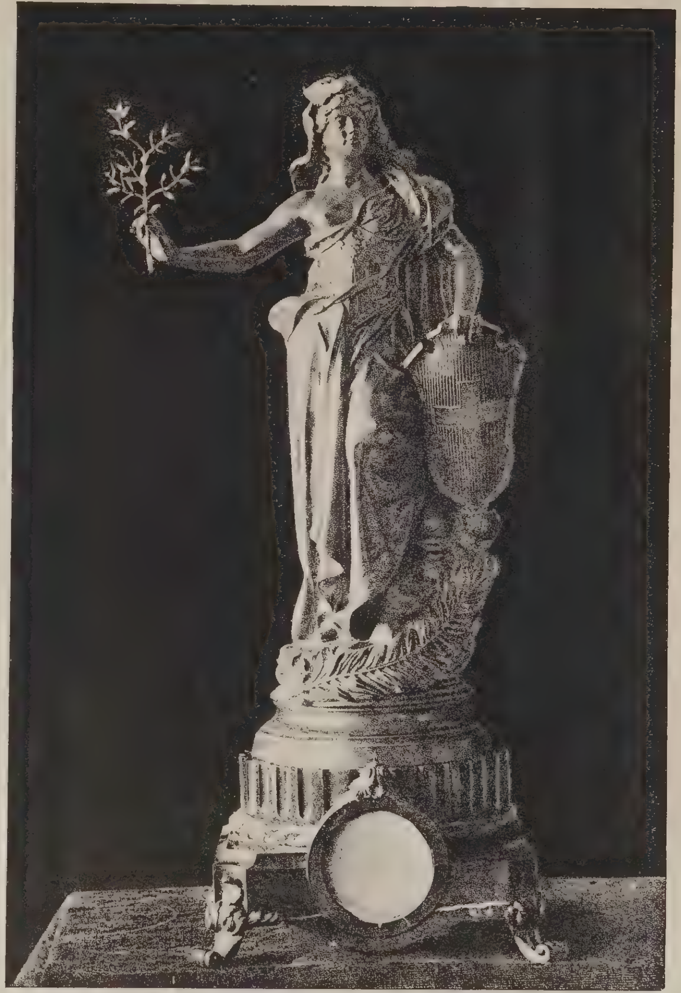
Painting on Faience: "The Elements."

Sculpture in Wood with Metal-Work.

Chimney-piece Decoration.



Metal-Work Clock.



Modelling · "Switzerland."

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EXAMPLES OF WORK BY STUDENTS OF THE SCHOOL OF APPLIED ART, GENEVA.

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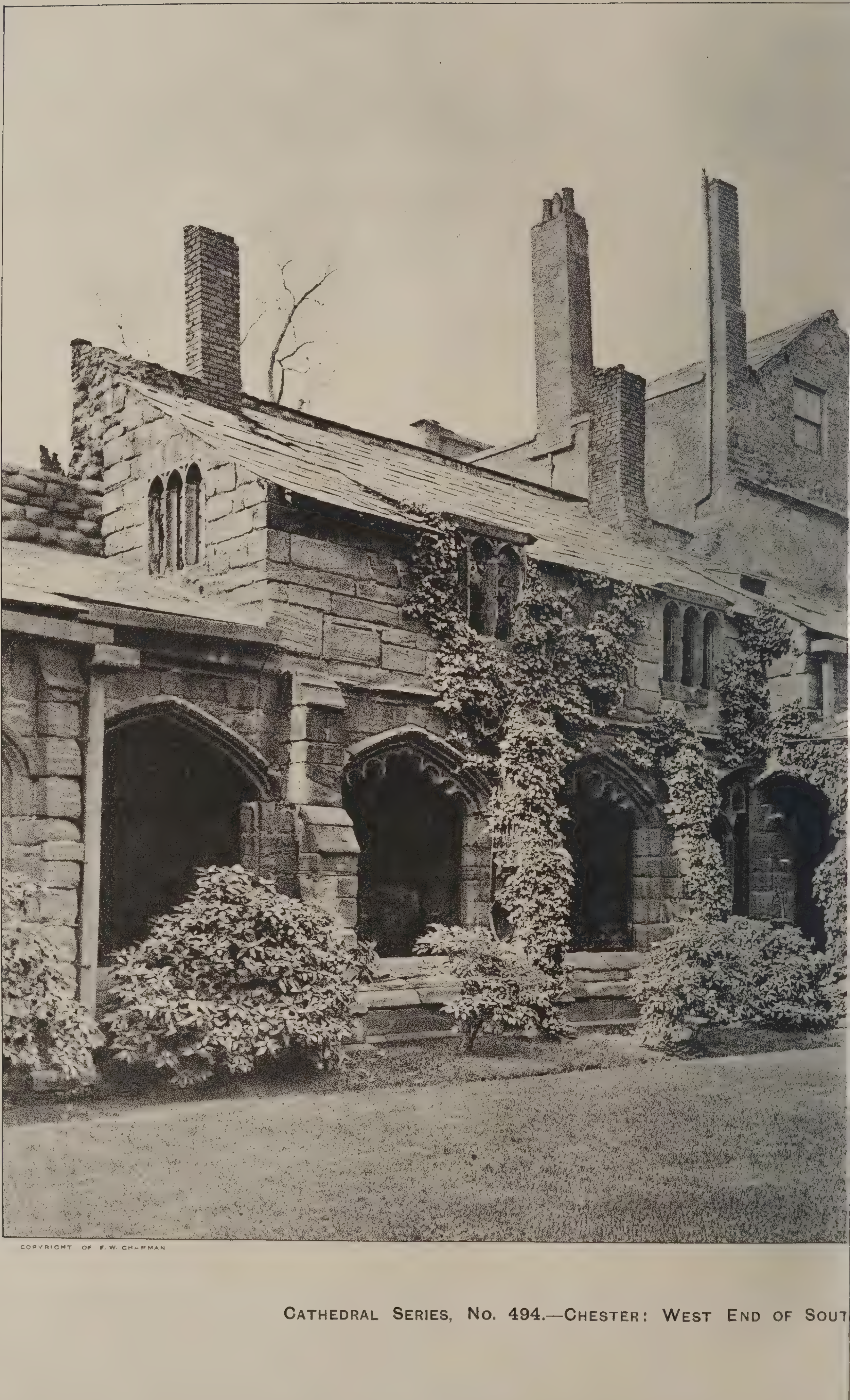

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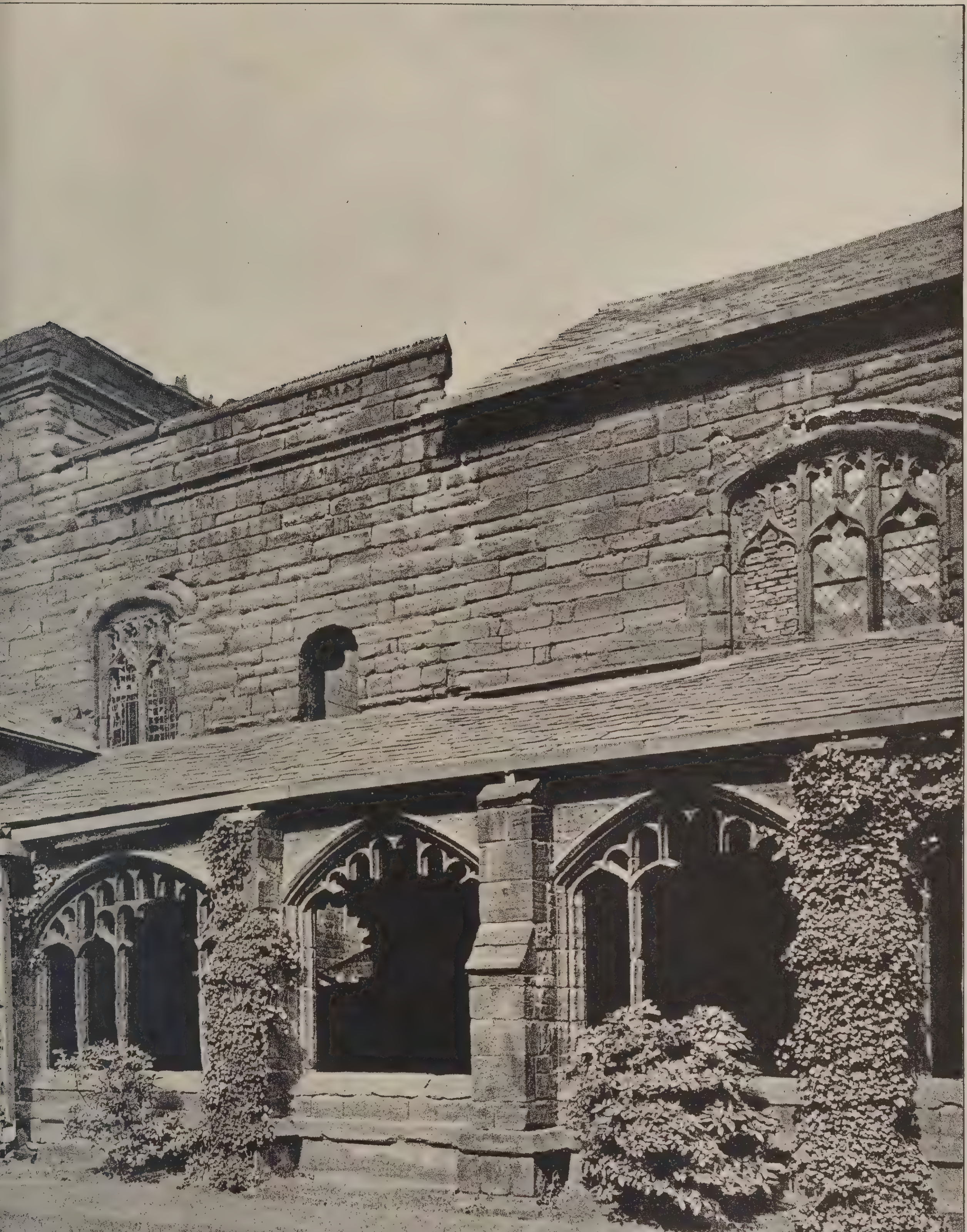
CATHEDRAL SERIES, No. 494.—CHESTER: WEST END OF SOUT une 3rd 1904.



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Wall of Refectory, and North-West Angle of Cloisters.

The Architect.

THE WEEK.

In the exhibition of Pictures by Irish Painters now open in the Guildhall Gallery there is a portrait of Viscount Powerscourt, who died in London on Monday in his sixty-eighth year. It is the work of the late Walter Osborne and deserves a prominent position in any collection relating to modern Irish art. The late Lord Powerscourt was the only nobleman, we might almost say the only civilian, in Ireland who displayed any enthusiasm about Irish art. He qualified himself for recognition as an authority by more constant study than is common with amateurs. He travelled and spent much time among pictures, not merely in public galleries but in painters' studios. He was always ready when occasion required to deliver an address about art, and his speeches were accepted by the Irish gentry as affording sufficient information on the subject. If the Royal Hibernian Academy is not liberally supported by the Government it is not Lord Powerscourt's fault. He was President of the Art Union of Ireland and one of the trustees of the Irish National Gallery. That so little was accomplished through his exertions must be ascribed to the inertness of the mass with which he had to deal. He inherited one of the loveliest of Irish properties, and he took care that its picturesqueness did not suffer during his possession. He was a model, not only as a landlord but in other respects. But men of his class unhappily did not aspire to be his imitators or his rivals.

A paper was read at the last meeting of the Royal Archæological Institute by Mr. C. R. Peers on "The White Monastery," near Sohag, in Upper Egypt, about 310 miles south of Cairo. Its foundation is ascribed to the Coptic saint Shanûda in the fifth century. It was then held to be the largest church in the world, and its founder called it Jerusalem. Within the enclosure there lived four thousand monks and nuns. The remains consist of the monastic church, part of which is still used for sacred purposes, but the inhabitants are now represented by an illiterate Coptic priest and some nine or ten families, who occupy houses within the walls and use the narthex as a common receptacle for their rubbish. The attention of Lord Cromer has been called to the ruins. Wilkinson visited the place in 1825, but experienced great difficulty in obtaining information. The monastery is built of hewn stones, with a cornice like that of the Egyptian temples. He considered the architectural details to be Greek, and that the buildings were erected when Christianity was under the protection of the Imperial government. Pocock supposed that the monastery dated from the reign of the Empress Helena. According to tradition the buildings stand on the site of the Egyptian Medeent Ahreeb, but the real Athribis or Crocodilopolis was found by Wilkinson at a place about half an hour's ride from the monastery. The ruins are so interesting it would be well if money could be spared to clear the site; but the Egyptian Government and the Egyptian Exploration Fund have so many archæological explorations in hand, an ancient monastery is likely to be neglected.

If antiquity can be regarded as a recommendation for an English church, Bosham should be one of the most prized. A symbol of it—it cannot be called a representation—appears in the Bayeux tapestry, for Harold prayed in it before embarking on that voyage to Normandy where he was duped by Duke William. Harold lived at Bosham, as did Canute, for local tradition maintains it was there the waves declined to obey him. It long served as a safe landing-place in days when harbours were unknown. The church contains work of all the periods from Saxon to Perpendicular, and it is supposed to stand on the site of a Roman basilica. Like some other old buildings, it stands in need of reparation. The parishioners, although willing, are unable to bear all the cost. It has therefore been decided to hold a bazaar on July 6 and 7, and to implore lovers of antiquity to subscribe. The upper part or spire of the tower, which some think the most interesting feature of the building, and which so often appears in exhibitions of pictures, requires reshingling, and the bells must be rehung in order that their vibration may not injure the walls. At least 2,500*l*. will be required.

The river Tiber is to historians the most renowned of all those in Europe. Its course of about 200 miles is marked by many interesting associations. If the Thames is supposed to be silver then the Tiber may be called golden. But that is only another word for a muddy yellow. In a prosaic age like the present the Tiber does not lend itself to navigation, and for more than half a century projects have been brought forward for constructing a canal which would for business purposes supersede the famous river by uniting Rome with the sea. The schemes, however, resemble those for exploring the bed of the river, which is believed to abound in valuable works of art and other antiquities, but in which capitalists will not co-operate. Plans were prepared lately by Signor Orlando, an engineer in which the King of Italy takes a personal interest. The suggested width of the canal is about 200 feet, and the depth 27 feet. The works, it is claimed, could be completed in about five years. It is believed the canal might be carried out at a cost of some 3,000,000*l*. sterling, but that is a low estimate, for the distance from Rome to Ostia is about 16 miles, and experience has shown that a port on that part of the coast would be of little use.

It requires great courage in Berlin to oppose any scheme which is promoted by the Government. The members of the Architects' Union have, however, displayed that quality in passing a resolution against the proposals for dealing with the royal theatre, or Königliche Schauspielhaus. It is one of Schinkel's works, and the German architects consequently regard it with reverence. Now the Emperor has determined that a catastrophe like that of Chicago must not occur in his capital, and, as was to be expected, the royal theatre was one of the first to be set down for transformation. The works proposed will be extensive. But the members of the Architects' Union believe they would destroy the character of a prominent masterpiece of the great architect. The question then remains to be considered whether it is not possible to enter upon other arrangements less revolutionary, and which would at the same time secure the safety of the public.

One effect of the operas of Wagner is to make the world realise that the "Nibelungen" were a race who originated marvellous legends. "Das Rheingold," with the "Trilogie," form an embodiment of the ancient heroes, some of whose deeds form the "Nibelungen-lied," which can be understood by all auditors. Goethe maintained that the poem, or it may be collection of ancient ballads, was in soundness at least comparable with the "Iliad" and the "Odyssey." Its influence in Germany can hardly be fully understood by a foreigner. All the kingdoms, principalities and free cities could unite in admiring the work, and it therefore became one of the factors which led to the formation of the Empire. Many editions and translations of the poem are to be found, some costing only a very few pence. The original was in the Middle High German dialect. But they are all likely to be outclassed by the new edition now in preparation in the State printing-office. The type will be in imitation of the German Mediæval manuscripts. Herr Joseph Sattler has designed illustrations as well as borders, initial letters and other ornamentation. In fact, everything will be done to make the poem an example of the finest typography which Germany can produce at the beginning of the twentieth century. The prices will vary in accordance with the quality of paper employed, and, while some copies will cost 2,500 marks, others can be obtained for 30 marks.

OLD CHESTER.

Among provincial archæological societies that for the county and city of Chester and North Wales can be considered as one of the most successful. Although there is an Historic Society of Lancashire and Cheshire which to some extent might be taken as a rival, both find opportunities enough for the exercise of their enthusiasm. The Society has the advantage of possessing a collection of antiquities which used to be in charge of Mr. Hodkinson, but owing to ill-health he was compelled to resign; however, at the request of the committee he accepted the office of honorary secretary.

Chester was formerly, as the name denotes, a Roman city, and likewise having importance in Mediæval times. It presents on that account numerous opportunities for investigation. The fine church of St. John, as well as the building now used for a cathedral, would be sufficient evidence on the latter point. One swallow, it is said, does not make a summer, and in Chester, as well as elsewhere, it must not be assumed that everything was in keeping with the noble churches. A paper was read in 1903 by Canon Morris, in which we find that as late as 1710 an inhabitant of the city was compelled to put up with much inconvenience. If able to afford it he had to engage a linkman to guide his steps at night. The Mayor, however, was in the happy position of having lights at the expense of the city. There were no streets more picturesque, but in 1673 an order had to be issued directing "that all benches and show-boards should be made with hinges, and folded up in the night-time to prevent any hurt or mischief that might happen to any person travelling in the rows or streets after dark." In the daytime the cleanliness of the streets was left to individuals, for it was not until 1670 that scavengers were appointed. The timber buildings of Chester are admired by all visitors. But in the seventeenth century every freeman on admission as a citizen was compelled to pay 10*d.* towards the cost of the fire buckets needed for their protection. In 1639 fifty of the buckets were "spoyled" at a fire in Northgate Street, and in 1670 an order was made "that all houses then erected, or to be erected later on, in Foregate Street, Eastgate Street, Northgate Street, Watergate Street and Bridge Street should be covered with slate or tiles, and not thatch." There was a difficulty in compelling people after the siege to respect the building-line. In 1670 one Randle Hulme put up a building which deprived the occupants of the neighbouring houses of their view. He was fined 3*l.* 6*s.* 8*d.* for contempt and disobedience. In the following year he was compelled to pay a rent of 5*s.* for encroachment. Eventually carpenters were paid 7*s.* for pulling down his encroachment. The tramp nuisance was in the seventeenth as in the twentieth century difficult to deal with. Strangers, especially from London, were dreaded, because they might introduce plague. Some were put in quarantine in barns and stables for a month. The householders had to take their turn in watching at the gates, to prevent the ingress of undesirables.

Several documents relating to Chester have been lately added to the British Museum. They appear to have belonged to the family of Erneys. A great number are concerning premises in Chester previous to 1300, and in many cases the seals attached to them are in excellent preservation. One dated 1178 comes from Hugh, Earl of Chester, and it suggests his position as a potentate when we find it addressed to his "Constable, Seneschal, Justiciar and all his barons, sheriffs and all his bailiffs and to all his men both French and English." It relates to a grant of land to a man named Pagan. The other deeds also refer to transactions in land, some being leases granted by authorities of monasteries and nunneries, the latest is dated 1296.

A description of ten Chester deeds of 1270-1490 is given by Mr. H. Taylor, F.S.A. One of the earliest relates to land and appurtenances in "fflesmonger lone," now Newgate Street. The first of the witnesses is Richard len Genour, the Mayor. Concerning him Mr. Taylor adds:—"Richard, the engineer and architect, as this deed shows, was mayor. He was the founder of the Belgrave family. His daughter and heiress brought the Belgrave estate by her marriage to Robert de Pulford or Eaton into that family, and their descendant, Joan, passed it on to her descendants, the Grosvenors. Richard was lessee of the Dee Mills and Fishery from the Earl. He rebuilt both the mills and weir. He repaired and added to both St. Werburgh's Abbey and Rhuddlan Castle. He built Flint Castle for King Edward I., and was with him at Carnarvon." In promoting the arts the Grosvenor family are only displaying hereditary instincts. Mr. Watts ought to be commissioned to execute a statue of Richard, the architect and engineer, as well as of the Great Hunter, who is recalled by the family name.

A paper by Archdeacon Barber treats of stained glass. Chester, we suppose, was not unlike other towns in presenting numerous examples. But it appears that in 1836, with the exception of a head of the Blessed Virgin in a clerestory window, there was not a single pane of coloured glass in the cathedral. That head, although not Mediæval work, afterwards disappeared, but has since been restored to the Dean and Chapter. Bishop Gastrell drew up a record of the stained glass existing in 1720, and the document relates mainly to the church of St. Mary-on-the-Hill. The glass which is in the tracery of the eastern and two of the other windows in the Troutbeck Chapel was probably collected from what survived from other windows. The old examples were intermingled with some of later date. Being fragments, they are necessarily miscellaneous in character, but they suggest the richness of the canopies, pedestals, borders, &c., of the old glass. Another paper relates to the shrine of St. Werburgh, the Saxon princess who became a nun and to whom the church now utilised as the cathedral was dedicated. What was long known as the shrine in the building was the ornamental structure supporting the shrine, for that was portable, and used to be borne through the town by the monks whenever there was a great fire, and on one occasion was placed on the walls to save Chester from the attacks of the Welsh. At the period of the Reformation the shrine was removed, and the stonework which is now called the shrine was converted into the bishop's throne. Its position was altered, and it may be that some changes were made in the substructure. Dean Howson, it is said, contemplated a complete reconstruction of the shrine, but was dissuaded from it. Some parts were recovered, and drawings have been made which are sufficient to enable us to imagine the splendid appearance it must at one time have presented.

In the Society's volume relating to the year 1902 the cathedral is made the subject of three of the papers. Archdeacon Barber, in describing the cloisters, refers to a statement by the late Mr. Parker, who was of opinion that there was an early cloister, even of the Norman period, of which a doorway still remains. Evidence exists confirming the tradition that early in the sixteenth century the cloisters were raised in height, for on one of the bosses in the North Walk the arms of Cardinal Wolsey are introduced. Chester was not then a cathedral city, but Wolsey acted as adjudicator in some dispute between the Bishop of Coventry and Lichfield, of whose diocese Chester formed a part, and the Abbot of Chester. The builders of the cloisters, we are told, grafted their later vaulting on to earlier work without destroying it, and yet without regard to symmetry and continuity.

The Archdeacon also describes the stalls, misereres and woodwork of the choir. The restoration of the stalls was a delicate operation. Messrs. Thompson, of Peterborough, undertook the work, and they have supplied the following account of the condition of the stalls as they were found:—

> All the old stalls and canopies were in a very bad state, and had been to a large extent repaired in deal; all the deal was taken out and renewed in oak. No less than thirty-five of the large topmost finials were either altogether missing or in deal. No columns to support the tabernacle-work were in existence, so far as we know, nor were there any remains of the same, or they would have been preserved. The whole of the "angel" terminations were new. The canopies at the west end were all new, as also six of the canopies to the side stalls, which were found to be all in deal. The large canopy at the west entrance is also new, and the old parts below the canopies were repaired. All the canopy-work had received several coats of paint; this was all cleaned off before the repairs were taken in hand.

Another interesting paper by the Archdeacon relates to the restoration of the south transept, which Freeman preferred to all other parts of the cathedral.

All students of the history of dramatic literature are aware that Chester was one of the places in which miracle plays might be considered as an institution. It is supposed by experts that in the fourteenth and fifteenth centuries the playwrights resembled those of modern times, and derived their scenes from French sources. WRIGHT says that the Chester mysteries appear to have the greatest claim to such a distinction. Mr. J. C. BRIDGE, Mus.Doc. Oxon., investigated the claim to accept RALPH HIGDEN as one of the early authors. HIGDEN is described as a hard-working, hard-reading monk, and as a man likely to be called upon to assist in the preparation of the plays. In Chester the performances used to be held at Whitsuntide, but afterwards the Feast of Corpus Christi was selected, as in other places. In a proclamation issued in Chester in 1532 the origin of the plays is ascribed to JOHN ARNEWAY, who was mayor in 1328, and that they were written by RANDAL HIGENETT. But in some ancient documents their composition is ascribed to DOMINUS RANDALL. Whether the writer of the verses was HIGENETT or RANDALL, or whether both names indicated the same man, there seems to be no doubt that Chester can claim to have had a share in the work which at a later time developed into the Elizabethan drama.

Another paper forms an interesting supplement to Mr. BRIDGE'S essay, for it describes the discovery of a grave in the position indicated by an ancient document as that of ROGER HIGDEN. The notices we have given will suggest how much information is available respecting Chester. But it is well to remember that during the last half-century the members of the Architectural, Archæological and Historic Society have been engaged in similar inquiries. As a result Chester is in one sense probably the best revealed city in England. Nor is the work exhausted. There are members who endeavour to vie with their predecessors in bringing to light further evidence about the history of the city and the neighbouring districts, and which will often cast a light on the condition of England at the same periods.

THE DECLINE OF HISTORICAL PAINTING.

UNDER the title of "Le Tableau d'Histoire s'en va" an article appears in *L'Art* by M. PHILIBERT AUDEBRAND in which he discusses the neglect of one important class of painting. His own recollections extend to a period which now seems to be remote, for he knew many of the writers and painters who took part in the great contest between the Classicists and Romanticists which began about 1830. It could be said that the *casus belli* was the representation of history. CORNEILLE and RACINE, who were invoked by one party, endeavoured to revivify Greeks and Romans. Every character in their dramas, however stilted, was supposed to be dignified, and not a line was spoken which was out of keeping with the belief that the ancients were a different and more exalted class of beings if compared with living men and women. The Romanticists claimed the liberty of representing a former period in SHAKESPEARE'S free manner. They assumed the people of a past age were just like nineteenth-century Frenchmen, and while they took care to impart to them the failings as well as the heroism displayed by some of the actors in the revolutions, they gave an attention to surroundings which was novel. There was little need for accuracy in the properties of "Le Cid," "Les Horaces," "Phèdre," or "Berenice," for a few Classic columns served to suggest a palace, whilst in "Hernani," "Lucrèce Borgia," "Angelo," "Ruy Blas," it was essential to have reproductions of buildings characteristic of cities in Spain, Germany and Italy. "Notre-Dame," by VICTOR HUGO, contained descriptions which required deep studies in archæology, and the long interval between the announcement and the appearance of GAUTIER'S "Le Capitaine Fracasse" indicates the difficulty which attended the efforts of a writer to project himself into the reign of Louis XIII. in order to impart reality to the backgrounds of his scenes.

The French historical painters for some generations had confined their attention to the men and women who were to be represented. Their pupils or journeymen might put in the accessories. It was recognised as a principle that such things should never distract the attention of the spectator from the figures. Some concession had to be given to truth—that is, to time and place—but buildings and costumes were not to possess sufficient importance to be regarded for their own interest. About 1830 another view was taken of what was essential. The painters of the Romantic school manifested pride in the accuracy with which all parts of their paintings were executed. But such a picture as the *Stratonice*, by INGRES, reveals that in the representation of a Classic scene the foremost champion of the old school was able to compete in architectural detail with his younger rivals. Each party claimed the past as their special province, and in consequence an impetus was given to historical painting. M. AUDEBRAND maintains that historical painting was the glorious predilection of 1830 and the succeeding years. It was so much in vogue that LOUIS PHILIPPE had to accept it and to create the gallery of Versailles in order that the history of France, or rather of its armies, should reappear before the eyes of his subjects.

A Salon exhibition in those days must have contained a very large percentage of history pieces. We might suppose that no other class of work was deemed worthy of acquisition by the State. THACKERAY, in his "Paris Sketch Book," gives an extract from the catalogue of the Luxembourg to suggest the doleful character of the subjects seen. No. 34 was a *Death of Cæsar*; No. 36 a *Death of Lucretia*; No. 38 a *Death of Hector*; No. 39 *Dante and Virgil on the Infernal Lake*; No. 41 *Medea*; No. 43 *Joas taken from among the Dead*; No. 44 a *Death of Queen Elizabeth*; No. 45 *Edward V. and his Brother*; No. 50 *Hecuba Going to be Sacrificed*, &c. Cynics may now imagine that the attraction of historical scenes for the painters was that their accuracy of representation could not be tested as closely as with works in which everyday life was depicted. M. AUDEBRAND, however, says that in those days it was believed that the historical painter should be a scholar, and that he should have patience and leisure. It was necessary to devote at least three years in research, studies and execution for a piece that was to make its mark. DELACROIX, while engaged on his *Medea*, was compelled to restrict all his expenses within four francs a day. Without such economy he failed to secure the time requisite for the production of the picture. The modern French painters, according to M. AUDEBRAND, lack the self-denial which is demanded from imitators of DELACROIX, DELAROCHE or INGRES; and the successors of the people who purchased those masters' works now seek attractions of an altogether inferior nature.

In England the indifference to historical painting is more marked than in France. With us history itself has received less attention than with our neighbours. If the great Duke of MARLBOROUGH gained not merely renown, but victories in diplomacy as well as in war, without any more knowledge of history than was afforded by SHAKESPEARE'S plays, people might well say they were likely to prosper in their affairs with as little devotion to CLIO. It must also be allowed that the class of historical painters who were able to impress the public with a belief in the truthfulness of their works was never numerous. REYNOLDS could discourse about the greatness of historical painting just as a professor of literature might glorify epic poems. But REYNOLDS was incapable of designing any important representation of ancient life, and no professor has been fortunate in the production or inspiration of an epic poem. The difficulty of the problem is suggested by the fact that when the death of WOLFE at Quebec had to be represented, some of the competitors treated the event as if it occurred in Greece or Rome. BENJAMIN WEST'S innovation in clothing the hero and the men around him in the regimentals of the time was regarded as a departure from the rules of art which was uncalled for, unworthy and undignified. The President of the Academy and the Archbishop of YORK endeavoured to persuade WEST to adopt the costume of antiquity for the British soldiers. The painter declared that the same love of truth which is imperative with the historian should be observed by the artist. As he was painting an event which occurred in the year 1768 in a territory unknown to Greeks and Romans, he could not suggest the place, the time, or the people, if he clad his soldiers in antique robes or left them nude. When the picture was completed Reynolds retracted his objections. But at the time it was exhibited all the cognoscenti were opposed to it, and Lord Grosvenor was thought to have shown remarkable obstinacy in purchasing the work. George III. wished to possess the picture, but he was afraid to act contrary to the opinion of the arbiters of taste. West gained, but he was henceforth known as a painter of waistcoats and gaiters. When we find that in the middle of the eighteenth century the fundamental principle of historical painting, which is accuracy, was disputed, it was not to be expected that England would advance quickly in that branch of art.

In succeeding years historical pictures were common in the exhibitions. It cannot be said that many of them have gained a hold on the public mind, and are recalled whenever the incidents depicted are referred to. A grand opportunity was offered for the display of talent in that line when it was decided to decorate the walls of the Houses of Parliament with paintings. The immense number of cartoons submitted showed how easy historical painting seemed to be to English artists sixty years ago. No matter what class of work had been followed, a painter considered himself competent to represent events which occurred centuries earlier in a manner that would lead people to imagine he must have been a spectator of them. As was to be expected, archæology was little utilised in the production of the works. Pickersgill's *Burial of King Harold* was placed first, and it cannot be taken as corresponding with what is known about the architecture or the costumes of England in 1066. Mr. Watts's *King Alfred* was on the lines he still adopts, that is to say, he preferred a conventional treatment of costume. Armitage's *Battle of Meanee* must have recalled *The Death of Wolfe* to the judges, for the uniform of a British infantry regiment was accurately shown. Afterwards the Commissioners adopted a scheme of their own. In the House of Lords they had represented *The Baptism of Ethelbert*, *The Black Prince Knighted*, *Prince Henry and Judge Gascoigne*, besides allegorical pictures suggesting the spirit of religion, the spirit of chivalry, the spirit of law. The House of Commons was not adorned with frescoes, but the waiting-hall, the corridors, the peers' robing-room and a few other parts were either painted in fresco or had pictures attached to the walls. Some of them quickly decayed, others were found to be invisible. The failure of the experiment in the Houses of Parliament has had an ill effect on historical painting. The public are not always discriminating, and the ruined pictures were taken to be typical of all attempts to make the past prevail over the present in art.

If we wish to see historical paintings which are as accurate as a lover of truth rather than of effect, by the aid of long and patient archæological research, can make them, they are to be found in the Manchester town hall. Ford Madox Brown was one of the competitors for the decoration of the Houses of Parliament, and he was impressed with the deficiencies of the collection seen in Westminster Hall. He resolved that no objection could be made to his series of illustrations of the history of Manchester on the ground of unwarranted details. Hereafter people may arise who will be able to appreciate such a treasury of antiquarianism, but it must be allowed that up to the present it is only a minority among the visitors who consider them as interesting. What is seen appears so far removed from modern conditions of being, people cannot understand that the paintings are as vivid reflections of ancient life as it is possible to produce. Theoretically, we have no other works in England which are so well deserving of being called historic paintings, but on that account they are "caviare to the general." One of the painters in the Paris Panthéon adopted a similar archaic treatment, but his series is the least admired of all that occupy the walls of that receptacle of varieties. From the two instances it may be taken for granted that the public everywhere are indifferent to archæological truth, and if they care for pictures of the past, it is when something is done to connect them with the present. Foreign painters have tried to overcome the difficulty by representing scenes, however remote, as if they were modern events, but the experiment is only to be commended for its hardihood.

A curious proof of what is thought about historic paintings was afforded by the sale of the Orrock Collection on Friday, Saturday and Monday last. The owner is an able landscapist whose works we have often praised, but he is also known as one of the shrewdest of collectors. He purchased pictures for his own gratification, no doubt, in the first place; but as becomes a connoisseur he was not indifferent to the value which they might have for other admirers. He possessed many landscapes, portraits and figure-pieces. But in his large collection he does not appear to have included one example of historical painting. Mr. Orrock is not the only collector who shows indifference to historic subjects. A gallery is, no doubt, incomplete when wanting examples of the kind. But it is considered preferable to have works which may be enjoyed without any misgiving, while historic paintings, unless they correspond with Madox Brown's, can be made the butts of flippant criticism.

When we speak of historic subjects we mean those relating to important events. Costume pieces showing incidents of a more simple kind are less amenable to severe scrutiny, and will beyond doubt be long in favour. There is not a modern exhibition which would not be deprived of its attractiveness if such works were excluded. With a great subject a painter is bound to be accurate at all costs; but with historic genre he need only attempt incidents which will be pleasing. Even with the latter some research is needed, for a picture of whatever kind will lose much of its value if the least important accessories have been erroneously selected, and consequently, as we sometimes see in pictures, objects are introduced of a kind which were only known at a subsequent date to the costumes.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A SPECIAL general meeting of the Institute of Architects was held on Monday evening last, Mr. Aston Webb, R.A., president, in the chair.

Elections.

The Council.—Mr. John Belcher, A.R.A., *President. Vice-Presidents*—Mr. T. E. Collcutt, Mr. A. Darbyshire, F.S.A. (Manchester), Mr. H. T. Hare, Mr. S. Perkins Pick (Leicester).

Honorary Secretary.—Mr. Alex. Graham, F.S.A.

Members of Council.—Mr. W. H. Atkin Berry, Mr. A. C. Blomfield, M.A.Cantab., Mr. A. W. S. Cross, M.A Cantab., Mr. F. R. Farrow, Mr. William Flockhart, Mr. Ernest George, Mr. J. S. Gibson, Mr. George Hubbard, F.S.A., Mr. C. E. Mallows, Mr. J. Douglass Mathews, Mr. S. B. Russell, Mr. W Gilbee Scott, Mr. W. Howard Seth-Smith, Mr. J. W. Simpson, Mr. John Slater, B.A.Lond., Mr. Lewis Solomon, Mr. Butler Wilson (Leeds), Mr. Ed. Woodthorpe, M.A.Oxon.

Associate-Members of Council.—Mr. R. S. Balfour, Mr. W. H. Bidlake, M.A.Cantab. (Birmingham), Mr. H. V. Lanchester, Mr. Edmund Wimperis.

Representatives of Allied Societies.—Mr. G. C. Ashlin, R.H.A. (Royal Institute of the Architects of Ireland), Mr. J. W. Beaumont (Manchester), Mr. A. W. Brewill (Nottingham), Mr. G. Bertram Bulmer (Leeds and Yorks), Mr. T. Cooper (Birmingham), Mr. H. Davis (York), Mr. H. L. Goddard, M A.Oxon. (Leicester and Leicestershire), Mr. John Keppie (Glasgow), Mr. G. H. Oatley (Bristol).

Representative of the Architectural Association (*London*).—Mr. E. Guy Dawber.

After the election of the Council an ordinary meeting was held to resume the adjourned discussion from the meeting of December 4 last on the occasion of the paper by Messrs. W. Henman and Henry Lea on the "Royal Victoria Hospital, Belfast."

Mr. Henman contributed the following:—

Notes on the Plenum System of Ventilation.

In the paper which I read last December on the Royal Victoria Hospital, Belfast, I particularly stated it was not my desire to raise controversy on the subject of mechanical *versus* natural means for securing ventilation; yet, as members then present expressed the opinion that it might with advantage be further discussed, the Council of the Institute have appointed June 6 for that purpose. If the time then at our disposal is to be well employed, the subject of ventilation generally must be dealt with on practical and scientific lines, and as that was not attempted in the paper to which I have referred, I venture to suggest some reasons which tend to show that plenum ventilation can be beneficially employed in certain buildings, and ought to be more closely studied by members of the architectural profession.

A primary necessity is to arrive at a concisely correct definition of what should be understood by the term "efficient ventilation" when applied to occupied buildings. Apart from outside contaminating influences which would affect ventilation by whatever means obtained, I suggest it is "continuous change of air within a building without causing discomfort or adversely affecting the health of the occupants."

The province of an architect in connection therewith is to dispose buildings on the ground, construct and equip them, so that the available air may be supplied in ample quantities, freed from suspended impurities, tempered and regulated to requirements without deterioration.

Buildings are erected principally to secure greater comfort than can at all times be obtained in the open.

By the erection of buildings, movement of air within them is necessarily less than it would be over the unoccupied site.

Change of air within a building is principally brought about by an ascertainable force—either of propulsion or extraction; although the law of diffusion—*i.e.* the process which brings about intimate mixture of gases without chemical combination—is a serviceable but less powerful agent in connection with ventilation.

If these premises be accepted, the question which has to be discussed is not whether by plenum ventilation a condition within doors can be secured equal to the open air at its best, but whether it can be employed in certain buildings, suitably constructed, so as to obtain at reasonable cost more constant and efficient ventilation than can be secured by other means.

A great hindrance to the proper comprehension of this subject is the employment of unscientific terms such as "artificial ventilation," "automatic ventilation," "natural ventilation," "mechanical ventilation," because they prejudice the mind. Ventilation is a result brought about either by natural or mechanical force. Moved by either, air is the same, just as water is the same, whether allowed to flow naturally or forced on by mechanism. Water may become fouled on its way, so may air, whether it pass in naturally or is propelled in its course from the outside to the inside of a building; but it does not in the least follow that fouling results from the power which caused its movement.

It is scientifically wrong to refer to a fire causing a "suctional" influence in a flue, for it does nothing of the kind.

Air when heated expands and is specifically lighter than an equal volume of colder air; it is the latter descending by the force of gravitation which propels the warmer air upwards; consequently an open fire in a room causes change of air by propulsion; moreover, the propelling force of wind is far greater than the suctional influence it exerts upon air within buildings. By realising these facts it is easy to understand that "plenum" ventilation is more in accord with nature's methods than "exhaust" ventilation.

Notwithstanding the acknowledged extravagance of, the dust and dirt resulting from, and the unpleasant draughts at times set up by, the open fire, I for one appreciate its cheerfulness, and believe it will long hold an honoured place in the British home. The mere fact that it necessitates an upcast flue is of the greatest service in connection with ventilation; but as the area of an ordinary smoke flue at the chimney-pot end does not greatly exceed half a superficial foot, the volume of air which can pass through it in a given time is limited, as is also the heating power of a single fire-grate. Consequently for larger apartments two or more fires are required, and it is well known that unless an adequate supply of air be otherwise provided, smoke will at times be drawn down one or other of the flues. For this and other reasons hot water, steam, air heated by stoves or electricity, are used, none of which demand an upcast flue or flues from the apartment to be warmed thereby. Yet for the health and comfort of occupants change of air is a necessity, and can only be brought about by providing suitable inlets and outlets. This is a simple statement of fact of the utmost importance in connection with ventilation, yet too often neglected, resulting, doubtless, from difficulty in determining the positions, dimensions and construction of such openings, and I incline to the belief that strong advocates of what they term "natural ventilation" are of the *laissez faire* order who expect nature to do everything for them; and as they do not consider whence the wind cometh nor whither it goeth, they provide neither suitable entry nor exit for it in the construction of buildings.

With regard to the possibilities and difficulties of ventilating an apartment warmed by other means than open fires, say a church or assembly-room. Suppose it is a calm frosty day, with the temperature inside several degrees higher than it is outside. If inlet openings are provided at or near the floor level and outlets at or near the ceiling level, a steady flow of air will take place from the inlets to the outlets proportionate to the difference between the internal and external temperature, and to the relative sizes and positions of the openings, brought about simply by the propelling force of the colder air outside falling by gravitation; but it does not follow that ventilation will be "efficient" even if the openings are adequate and well placed, because the differences in temperature may not suffice to cause adequate change of air—the opening of a door or window will upset the relative proportions between inlets and outlets, probably causing draughts. Moreover, with a number of people seated on the floor area, and with air entering around the lower portion of the walls, it can only arrive at those in the centre after becoming fouled by passing over the bodies of those nearer the inlets, but it is more than likely that the bulk of air passing through the room will travel from the inlets to the outlets without changing the air in the central portion. Every variation in temperature or in the force of wind outside will alter the conditions within, and during summer weather the temperature may be considerably higher outside than in; every factor is then reversed. Some improvement may be effected in cold weather by giving the incoming air an upward tendency and providing up-cast flues as outlets, with well-distributed openings near the floor level. The incoming air will then fill the upper portion of the room, gradually descend, change the atmosphere throughout and pass away up the flues; but this arrangement of flues is not altogether satisfactory in summer weather, and even under such conditions change of air will fluctuate with every variation in the force of the wind outside. Consequently with the best possible arrangements, so long as natural means alone are relied on, there must be constant, intelligent and personal attention if comfortable ventilation is to be secured; nevertheless I am bound to confess that with care in the design and arrangement of suitable inlets and outlets, with adequate heating power, and with proper means for regulation, it is quite possible with personal attention to secure reasonable ventilation by natural means in buildings only occasionally occupied. None but very sensitive people are quickly affected by breathing a partially vitiated atmosphere, and few remain for long at a time in crowded places, so that when rooms are unoccupied windows and doors should be freely opened, and ample change of air secured. If this were regularly done, and thorough cleanliness were observed in and about buildings, there would be less cause for complaint of defective ventilation.

Every individual by respiration and exhalation throws off moisture and animal matter, and when a number of people congregate within an apartment the defilement of the atmosphere is considerable. Rapid change of air will carry much away, but with defective ventilation much is deposited upon exposed surfaces in the building in consequence of variation of temperature, and only prolonged and greater change of air than would be tolerated while a room is occupied will dissipate the contamination.

In the hope of disposing of the charge which has been made against me, that I am a prejudiced advocate of "plenum" ventilation, I now state most distinctly that unless it is continuously applied it is questionable whether it can be permanently successful, and I am not inclined to advocate its employment unless its advantages are considered worth the cost of continuous working. I cannot think it is sufficient to ventilate a building simply for the periods during which it is occupied and then to stop the mechanism and bottle up the air until the next period of occupation.

Let me illustrate this by directing your attention to a railway carriage. Standing still how stuffy it often is, particularly in hot weather; but when rapidly moving along it is freshened up. Yet on again standing still it loses its freshness. That is an example of ventilation produced by mechanical means intermittently employed.

Now I wish to explode another fallacy.

Downward ventilation has been termed "down draught," apparently in the hope of condemning it by giving it a bad name. Advocates of the open fire have stated that to propel air into the upper portion of a room and let it go out from the lower portion is unnatural. Fortunately this can be easily disproved. Take an ordinary room with an ordinary open fire and smoke flue. Test it as you will, and, apart from occasional strong winds setting up adverse currents, resulting at times in what are termed "smoky chimneys," it will be found that the only detectable outgoing of air takes place by the open fireplace flue, the lower opening of which is about 2 feet 6 inches above the floor level. Many people open the upper portion of a window when the temperature of a room, heated by an open fire, is excessive, holding the idea that they are letting out the hot air, but with rare exceptions the temperature of the room is then actually lowered by letting in a larger volume of colder air, which compels a more rapid outgoing of heated air up the flue.

It is true that in most cases no special inlet for air is provided, and that in consequence air enters by any casual, and probably dirt-concealing holes, cracks and crevices—mostly around the lower portion of the room—whence it makes its way in narrow streams, moving with considerable velocity towards the fireplace, causing unpleasant draughts, while little change of air takes place in the upper portion of the room. Yet, if the same room were provided with a suitable inlet at a foot or two below the ceiling, on the same side as the fireplace and as central thereto as may be, the incoming air would become tempered by contact with the ceiling, walls, furniture, &c.—previously warmed by radiant heat from the fire—it would, by its inflow, force the atmosphere of the room downwards towards the fireplace opening and up the flue to the open, without causing discomfort to occupants.* Under these conditions air is propelled into the room from a reasonable elevation, where it is generally fresher than near the ground-level and more free from chance contamination. Force of wind outside, varying as it does in intensity, will materially affect velocity of change within. I have therefore devised a simple automatic regulating inlet, consisting of a curved enclosure to a resistless flap hung eccentrically so that the area of the inlet opening is diminished proportionately to the force of wind playing against it; but satisfactory results can be obtained even without this refinement if the inlet be provided with louvres for distributing the air at low velocity. I am perfectly aware it is not the method usually adopted, nor is it the one recommended in most works on ventilation. Do not, however, condemn it without proper trial; think it out, and you will, I believe, come to the conclusion—as by practical experience I have—that it is most effective in securing the efficient ventilation of an apartment; and if so, then the relative positions advocated for inlets and outlets with the "plenum" system are correct.

Complaints being so frequent of defective ventilation—even in buildings where outlay has been incurred in the expectation of securing, let us say, comfortable ventilation by natural means—is it surprising, when we consider the marvellous results of mechanical power now used for the benefit of mankind in almost numberless ways, that attempts should be made to employ it for improving the ventilation of buildings?

Mining operations and many occupations have for years been carried on which would have been impossible without the assistance of ventilation brought about by mechanical means. Thousands of power-driven rotary fans and air-propellers are in daily use, proving the possibility of changing the air of enclosed spaces. Centuries ago the necessity for securing greater change of air within buildings than could at all times be naturally procured was recognised, and a few advanced minds suggested the employment of bellows and other primitive appliances worked by hand or water-power. I have seen quaintly illustrated treatises on the subject, and although failure doubtless resulted from inadequate knowledge and appliances, there is no reason why, with air-propellers and power appliances brought to the high state of perfection they are to-day, we should not take advantage of them for securing ventilation within buildings.

It is no argument to say "I don't like plenum ventilation," or even to point to failures which have occurred; nor is it sufficient to bring forward some fanciful idea that in an undefined manner air moved by mechanical power is deprived of an unknown vital essence. It has been suggested that by warming air otherwise than by the sun's rays this intangible essence is destroyed, and that is given as a reason why some people condemn plenum ventilation; but it is altogether begging the question, because in summer time, when "plenum" ventilation is so effective in maintaining a cooler atmosphere within doors than in the open, no heating is employed. Will it then be contended that, by lowering the temperature, such will-o'-the-wisp essence again disappears? Unfortunately my scientific knowledge is not sufficiently profound to enable me to determine if there is even an element of truth in these imaginings; but even if there be, which I strongly doubt, it is easy to demonstrate that with a carefully devised installation of "plenum" ventilation the necessary warming and cooling of air are effected with less chance of deterioration than by any other method. In addition to which the air is drawn from sources known to be at a distance from contamination; it can be cleansed from suspended impurities, brought to suitable hygrometric condition, and passed on to apartments without contact with impurity.

I am perhaps as painfully conscious as anyone that there have been many failures with "plenum," and so there have been with every other method employed for securing ventilation; but my experience convinces me that failure is not the fault of the system, but that it results either from want of knowledge and experience on the part of those who installed it, or from neglect. It is only by careful comparison of results and a minute examination of the means and methods employed that a true estimate of its value can be ascertained. Personally I have not the faintest doubt that by the "plenum" system the efficient ventilation of a building can be effected. The principle is perfectly sound, yet I realise there are two sets of objections to be met: the first I class as purely fanciful, most of which I have already dealt with; the second are more tangible, and relate to the means and appliances which should be employed and the cost. To review all the means and appliances at disposal is quite out of the question on the present occasion, but they have a very decided influence, not only as regards partial or complete success, but also a direct bearing on the question of first cost and maintenance.

Much as I dislike making comparison between the work of others and that with which I have been connected, this discussion has been forced on, and we are to meet in the hope of gaining instruction which may be placed at the service of the public. Consequently I shall briefly compare, principally as regards costs of power employed, a few installations of plenum ventilation, and as I shall make use of information derived from printed particulars given by the engineers themselves, we shall at least have fairly reliable data.

Consider the importance of such a comparison as regards the number of changes of air effected per hour. May not success in great part depend upon giving an adequate change of air? And surely the question of cost would be a determining factor in many cases.

Building.	Cubic Feet of Air per Hour.	Change of Air per Hour.	Power.	Estimated Horse-power.	Annual Cost for Power.	Annual Cost per Million Cubic Feet.
Glasgow Art Galleries	9,050,000	Not stated, probably 3 times.	Electricity	66	*£2,695	£298
Manchester Technical School	12,000,000	3½ ,,	,,	80	3,224	269
,, Midland Hotel	6,000,000	3 ,,	,,	40	1,612	269
Birmingham General Hospital	13,000,000	7 ,,	,,	19	766	59
Belfast Royal Victoria Hospital	5,000,000	7 ,,	Steam	5¼	100	20

Reference to the paper by Mr. Henry Lea, given in the Institute Journal for December 10, 1903, will show how this economy in cost of power is effected. In the discussion which followed, Sir John C. Holder personally testified to the success of plenum ventilation in the General Hospital, Birmingham, which he has systematically visited, one may say almost daily, during and since its erection, and I could produce a large number of letters addressed to me containing congratulations on the satisfactory ventilation of that and the Royal Victoria Hospital, Belfast; but I prefer to place before you one because it was not written to me, and because it is from an architect experienced in hospital design, viz. Mr. Batchelor, of Messrs. Carroll & Batchelor, of Dublin, neither of whom is personally known to me. It runs thus:—

"I had been greatly interested in the accounts I read from time to time of the progress of the Royal Victoria Hospital, Belfast, and more particularly in the arrangements for heating and ventilating it. I have had some experience of the plenum system, and have never been much in love with it. I looked therefore rather with distrust on a building which had been so designed as to make such a system obligatory. Mr. Henman is to be complimented and congratulated on his courage in designing such a hospital, and I am free to confess that the result, so far as I was able to judge during my short visit, affords him ample justification for his inversion of many of the accepted canons in hospital design. I was particularly struck by the wonderful uniformity of the temperature maintained in the hospital throughout the twenty-four hours—such as could not, I believe, be obtained by natural means. The freshness of the air in the wards was remarkable, and there was a complete absence of that peculiar odour which is familiar to everyone having to do with hospitals. These results are obtained, I was glad to see, without draught, nor was there any perceptible movement of air in the wards. Everywhere I went through the hospital I saw evidence of great forethought and skill in design, particularly in those small details which count for so much in the economical administration of the institution. The building is a credit to the architects and also to the contractors, who have put such honest and, if I may use the expression, sympathetic work into it. Everything appears to have been done as well as it was possible to do it."

It has been well said that the only way to arrive at a right judgment as to the practical utility of plenum ventilation is to carefully examine it in a building in which it has been applied with knowledge and experience. All I ask, in conclusion, is that the subject may be approached without prejudice or regard to merely personal interests and fanciful misgivings, for a right understanding by the architectural profession on the subject of ventilation must have a vital influence on the health and well-being of the people.

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* See article on "Ventilation" in *Modern House Construction*, Vol. V. (Blackie & Son, Ltd., 1899.)

* The costs of running are worked out proportionately to the amount of power, presuming it is employed continuously.

Mr. S. PERKINS PICK, in a criticism of the Belfast hospital, said he had made a careful inspection of the building under the guidance of the superintendent, and he said he was bound to confess that in hardly any other instance had he ever received such a laudatory description from the authoritative head of such an institution. The sisters, nurses, the engineer, and even the patients appeared to be equally pleased with the general arrangements provided and with the heating and ventilation system installed. In spite, however, of all the satisfaction expressed, in his judgment the plenum system of heating and ventilation for a hospital was not essential. In hospitals the superficial area and cubic space required to properly attend to each patient were necessarily very large, and therefore the requisite changes of air were less difficult to obtain than in such buildings as assembly halls, workshops, schools, and similar places. For these latter buildings he was convinced that no system gave such satisfactory results as a properly designed plenum system, especially so when some mechanical means was arranged for creating a positive extraction of the vitiated air. In his opinion a hospital planned in separate pavilion blocks, arranged with windows on either side of the wards, with a bed between each, an easily cleaned ventilating heating coil between each pair of beds, and with central open fires, was preferable. This well recognised style of building was more pleasant for the patients, and adapted itself so readily to effectual ventilation by opening the windows that the complications of a plenum system of heating and ventilation were unnecessary. For operating theatres and out-patients' departments the plenum system was not only desirable but essential, because it was almost impossible to properly ventilate such places without some mechanical appliances, of which none were better than the plenum. Great caution was necessary in the application of such a system to hospital buildings, because defective drainage could contaminate the air in the supply ducts. The architects in the Belfast hospital had wisely provided a separate duct for the necessary hot-water and other pipes, the main air-supply duct being kept nearly clear of them. He was unable to ascertain whether or not these pipes were kept below the level of the main duct, but he was seriously frightened at the enormous length of drains which must of necessity be placed below the hospital buildings. In conclusion, he said it was only just and due to the architects and engineers to state that, in spite of any criticism he had offered, the scheme of heating and ventilation as carried out in the Belfast hospital was one of the very best that had up to the present time been executed, and, whether other architects followed the daring lead of Messrs. Henman & Cooper or not, the enormous educational advantage they had given architects in having the boldness to carry out their convictions would be properly appreciated by every member of the Institute.

Mr. SAXON SNELL said he had no bigoted opinion against the plenum system. For exceptional buildings an exceptional system was necessary, and the plenum was the best, but in certain classes of building it was not a desirable method to be adopted. Hospitals and houses might go together as living places, and here the system could be objected to. It was dangerous to define the meaning of the word ventilation, and the definition given by Mr. Henman in his notes was misleading. To speak of downward ventilation was scientifically wrong. If an object was to be moved it was advised that the best way to move it was in the direction of the line of least resistance: with air this movement would be upward, as hot air rose. They were also told to admire the extraordinary evenness of the temperature which could be maintained by the plenum system. This was holding up monotony as a virtue.

Dr. RIDEAL said in the ventilation of buildings in a confined space in towns the open window was not the method to commend itself, and artificial means must be employed. In such cases the forcing in of air must be better than the extraction of air by fans. An underground duct, when old, might allow the organisms to settle down and multiply, but then it would be necessary to see that the air was germ free before it went into the ward of a hospital. It had been asserted that the sulphur of coal gas was deleterious to the occupants of a room, but having gone into the matter he found in ordinary rooms the use of coal was not a serious danger. With ordinary plaster walls the carbonate of lime served as a very good sulphur absorbent, and ventilation was naturally carried on through the walls.

The Rev. J. B. LOCK, Messrs. W. KAYE PARRY, HAROLD GRIFFITHS, E. W. HUDSON, A. E. MUNBY, and MAX CLARKE also expressed views on ventilation.

The PRESIDENT, in terminating the discussion, said he felt they had not got to the bottom of the subject, which seemed inexhaustible. The ventilation of buildings was most interesting at the present day. The question of the cost of different systems was one which could not be overlooked by the architect, and in this particular the relative cost of installing the plenum system and the relative cost of the steam system would need consideration. Cost was not everything, but it did have an effect upon building schemes, and the architect could not neglect it. The smaller cost was rather in favour of the direct system of heating by radiators, but it must be remembered that with the plenum system a building was not only being warmed but ventilated as well. For rooms which were crowded with people it was most essential to have the air frequently changed, and the plenum system was the only one by which a continuous change of air could be secured.

THE NATIONAL GALLERY.

THE following pictures have been recently added to the National Collections:—

"A Portrait of a Lady," by Bartholomeus van der Helst, hung in Room X, in the Gallery in Trafalgar Square; "Portrait of his Father," by Albrecht Dürer, hung in Room XV. in the Gallery in Trafalgar Square.

Both these pictures were exhibited at the Exhibition of Works by the Old Masters at the Royal Academy in 1904 and were purchased for the nation from the Marquis of Northampton.

A small picture of the Early French School, fifteenth century, representing the "Virgin and Child in the Garden of a Convent, with Saints," has been purchased out of the Lewis Fund. It is hung in Room XVII., in the Gallery in Trafalgar Square.

A "Portrait of Quin, the Actor," by William Hogarth, has been purchased out of the Clarke Fund. It is hung in Room XIX., in the Gallery at Trafalgar Square.

The Earl of Carlisle has presented a landscape by Samuel Bough. It is hung in Room III., in the Gallery of British Art at Millbank.

Sir William Agnew has presented a picture, "Kept in School," by George Leslie, R.A. It will shortly be hung in Room III, in the Gallery of British Art at Millbank.

Mr. George Gilbert has bequeathed four drawings by Sir John Gilbert, R.A. They have been placed in Room VI., in the Gallery of British Art at Millbank.

WHITE LEAD.

A REPORT on "White lead" has been sent by Dr. Voelcker to the chemical committee of the Royal Agricultural Society. "White lead," as used for paint and for estate work generally, is understood as being a basic carbonate of lead, and is mostly prepared by the old, or "Dutch," process. Of late years other processes have been introduced, and also other salts of lead—*e.g.* the sulphate—have been suggested to take the place of white lead. Though these vary, none of them possess to the full the "covering" power which genuine white lead has, and they are sold at a lower price. These substitutes ought not, however, to be described as "white lead," and the following case, which lately occurred, may be useful in warning land and estate agents to be careful as to what they buy when asking for "white lead." The agent of a nobleman in the home counties sent to Dr. Voelcker in April last a sample of what had been guaranteed as "pure white lead," and which was to be used for estate purposes. On analysis it was found not to be white lead as properly described, but, instead of being the carbonate of lead it was sulphate of lead. It was purchased and described as "genuine English white lead in oil," the price being 18*l.* 9*s.* per ton, less 2½ per cent. for cash. The price of genuine white lead (in oil) was at the time 22*l.* per ton, less 5 per cent. for cash. The sulphate of lead was found to have good covering power, though not equal to that of ordinary good white lead. It is not, however, right that when "white lead" is ordered a material different from it should be sold under that name, or covered by the prefix "English." The vendors, on being written to, admitted the correctness of the report and took the delivery back.

At the Grand Horticultural Exhibition of the Royal Botanic Society of London in Regent's Park this week, Messrs. Merryweather have on show a number of novelties in spraying, watering and hop-washing appliances. These are driven by petrol motors and are a new application of the automobile engine. The gold medal of the Society was awarded to the firm after the inspection by the judges on the opening day.

NOTES AND COMMENTS.

The Working Men's College must always be considered as a memorial of the Christian socialism which in 1854 was believed by F. D. Maurice, Charles Kingsley, Thomas Hughes and others as a potent remedy against the evils which in 1854 seemed to threaten the country. Ruskin, Burne-Jones, Madox Brown and other artists gave their aid in the teaching. Christian socialism has gone the way of many other isms, but the Working Men's College has undoubtedly been of great advantage to numerous students. The houses occupied for classrooms in Great Ormond Street have long been found inadequate, and it has been resolved to signalise the jubilee by the erection of new buildings in Crowndale Road. 8,000*l.* have been expended on the new site. A further sum of 24,000*l.* is available for the erection of the buildings and the creation of a fund for the training of teachers, providing plant, &c. At least 8,000*l.* more will be required, and an appeal is now made for contributions towards that amount. Numerous as are educational establishments in the Metropolis, the system of the Working Men's College has not been superseded by any of them, for in it university teaching has been brought down to meet the special need of genuine working men.

At the present time it is thought advisable to observe what is being done in Mongolia, and a report has been published by the Foreign Office describing a journey made at the end of 1903 by Mr. Kidston and Mr. Flaherty at the instance of the British Minister at Pekin. They came across the Great Wall of China at K'u-pei-k'ou, where they found it "even finer than at the more famous Nankou Pass. It clambers up abrupt precipices, crowns rocky pinnacles with its buttressed loops, disappears and appears again in every direction in a succession of daring zigzags, and seems to defy nature with an audacity which is almost impertinent." To gain Dolon Nor, a town of from 20,000 to 30,000 inhabitants, they had to pass through a howling wilderness. "Imagination," they say, "could not depict a more miserable and unattractive site for a town, and the town itself is on a par with its situation—filthy, squalid, treeless, built of mud and without an attractive feature." At first it may appear incredible that such a spot should be selected for an important trading town, but the mystery is explained by the Chinese title Lamamias, or Lama temple. In that region they observed that temples, being the only permanent buildings, were a centre to which Mongol life naturally converged, and even in the most desolate districts there were usually a few Mongol huts pitched round the sacred buildings, while at many temples a regular annual fair is held. To the north-west of Dolon Nor are two very large and important temples, and it is owing to the existence of these and to the fact that they are the first important temples of the great plain that the town has come into being and grown from a place of petty barter to a great trading centre. Metalwork is the most important industry in Dolon Nor. Bronzework for the temples, Buddhist images, silver ornaments for women's head-dress, silver vessels, copper jugs, iron braziers are produced. It was with great difficulty the travellers were able to find accommodation in the towns. The temples are built in Chinese style, but, unlike Chinese temples, they are kept scrupulously clean. They found in each two large stuffed tigers mounted on wheels, which roll their movable eyes when trundled in religious processions. In Mongolia at least one out of every three of the population is a priest, but many of them lead a nomad life. In the course of the journey they visited the large temple of Chao-erh-gi. It is an oblong mass, decreasing as it rises from the ground, and with a flat roof decorated round the frieze with gilded prayer machines, and with gilded ornamental bosses on the parapet. In the upper storey there are square windows with a simple cross framework. It recalled a scene-painter's efforts to reproduce Egyptian architecture in the tomb of Aida. The nomads dwell in a peculiar kind of tent or "yurt," which is shaped exactly like an inverted bowl; the framework of the walls is composed of a trellis of wooden staves fastened very neatly together with strings of hide; it is in three pieces, each of which folds together on the same principle as the neck of an old-fashioned chain purse. The framework of the roof is made to shut up like a Chinese umbrella, the ribs being attached to a central ring, which forms the hole by which the smoke of the fire escapes, and which can be closed at night by drawing a flap of felt across it. The door is a small oblong aperture about 3 feet high. Eventually they found their way to Harbin, where they saw buildings were being run up in every direction by the Russians—barracks, stations, bridges, engine and machine sheds, water towers and houses for engineers and employés, all of the most solid and expensive description.

The Isle of Cos, in the Greek Archipelago, was for a long time neglected, but modern explorers have been able to substantiate the legends of its former greatness. There was a temple in it dedicated to Æsculapius, famous all over the island, and it was related that Hippocrates obtained all his cures from the votive tablets describing diseases which were hung on the walls. The remains of that temple have been brought to light by Rudolf Herzog. He has recently discovered a most interesting Greek inscription. It relates that in the year 279 B.C. a horde of Gauls had invaded Greece, but that the next year they were driven back. A public festival was ordered to celebrate the retreat of the enemy. Among the places attacked was the city of Delphi, but Apollo appeared in order to rescue his sanctuary. A representative from the Island of Cos was sent with an ox with gilded horns as an offering to the god and to show the reverence in which he was held by the people of Cos. They begged his protection for all the Greeks. Additional offerings were given to Zeus. It was also decreed that the anniversary of the victory was to be ever more regarded as a feast, and that all assisting at the services were to be crowned with wreaths. Four hundred drachmas were set aside for the celebrations in Delphi, and a hundred and sixty for those in Cos. The inscription was placed in the Temple of Æsculapius. It would now be difficult to say whether the Gallic invaders of Greece were of the same race as the men who subsequently fought with Cæsar in Western Europe. The Greeks knew little of ethnology, and were unable to discriminate between the constituents of that peril against whom they believed the interposition of the gods was a necessity.

Among the novels which will appear in a day or two for the benefit of holiday-makers is "The Shadow of a Throne," by Mr. F. W. Hayes, the artist. It is not his first venture of the kind. The subject is interesting, for it relates to an effort to carry off the unfortunate Dauphin, who was the son of Louis XVI. and Marie Antoinette, from the Temple. That unhappy prince, about whom so many stories have been written, and whose representation by the late M. Gallait, the Belgian, has drawn tears to many eyes, was according to records handed over to Simon, the cordwainer, who was finally guillotined. The Dauphin feared to go beyond the tower of the Temple in which he was confined, and lingered there in squalor and darkness unable to change his shirt for six months. His subsequent fate is uncertain, for while it is generally believed he died in his prison in 1795 as a consequence of ill-treatment, some have maintained that he was conveyed to the United States. The Temple at the end of the eighteenth century presented a very different appearance to the market for old clothes which was recently closed. When Louis XVI. was brought to it he was lodged in the building which was supposed to have been the residence of the prior of the old monastery. But two days afterwards he was placed in the tower. Mr. Hayes has taken a great amount of pains to explain the condition of the structure at the time. His theory is that the Royal family were first imprisoned in the little tower and then in the great tower, which one of the characters describes as "a brick on end, 150 feet high, with every inch of the outside in view from the enclosures, the windows mere slits, no moat, no side-roofs, no pipes, and I suppose no cellars or drains—two enclosures with neither shelter nor hiding-place, two high walls and two sets of patrols. And all this to take care of a couple of children." The attempt to rescue the prince allows of many exciting incidents, and the novel will no doubt be found attractive by readers.

ILLUSTRATIONS.

CATHEDRAL SERIES.—CHESTER: CLERESTORY OF NAVE AND FLYING BUTTRESSES—NORTH-WEST PORCH AND BASE OF NORTH-WEST TOWER—DOORWAY AT WEST END OF NAVE—ABBEY GATEWAY.

GREYSTOCK, WIMBLEDON.—FRONT ENTRANCE.

PROPOSED GEORGIAN MANSION IN WARWICKSHIRE.

THIS house was designed last summer by Mr. Charles Armstrong, of Warwick, to suit the requirements of a client, the plans of which were greatly his own idea. The exterior would be carried out in the Early Georgian style; a good cherry-coloured brick, 2¾ inches on face, would be used throughout, with stone facings, quoins, cornice and balustrade; no four courses of brickwork to measure more than 1 foot in depth. The balustrade to screen the roof as required. Large bows, circular on plan, with stone porch, columns and Ionic caps relieve the front elevation. The large Queen Anne sash windows have rubbed and gauged brick arches and stone keys and cills, and will have wide white window bars. Internally the main double staircase will be of English oak, and it is proposed to panel the inner hall to a height of 16 feet and the billiard-room 8 feet of this wood. The inner hall is carried up to the ceiling of bedroom floor and will be 27 feet in height, a balcony of arched oak columns dividing it from the corridor. The drawing-room is divided from the boudoir by a movable screen, which would be taken down to form a ball-room of 75 feet by 24 feet. The bedroom floor has two entirely private suites, as well as double and bachelor's bedrooms.

A hot-water apparatus in the cellar heats the principal rooms and the entire building will be lighted by electricity from a station built outside.

Large stables are also planned for twenty-six horses, motor cars, &c., with living-rooms over; these enclose an oblong courtyard.

HERNE HILL CONGREGATIONAL CHURCH.

THE development of Herne Hill for residential purposes, with the attendant necessity for increased church accommodation, induced Alderman Evan Spicer, as well as a number of others connected with the London Congregational Union and Camberwell Green Church, to undertake the erection of the new church which we now illustrate. The site is an admirable one at the corner of Denmark Hill and Red Post Hill, which was secured upon favourable terms from the Governors of the Dulwich College Estates, and the foundation-stone was laid by Miss Keen, of Streatham, about twelve months ago. The design is Gothic of the Decorated period. Red bricks and light grey terra-cotta have been used for the exterior, and the interior is faced with light tinted bricks. The nave is 76 feet in length and 30 feet in width. The side aisles are used as passages to the seats. There are north and south transepts, chancel and a lofty organ-chamber. The tower and spire at the corner rise to a height of 115 feet. At the rear of the church there is a hall 39 feet by 20 feet, with a large room adjoining, also vestry and other accommodation. The church is at present being seated for a congregation of 450 persons, but the plan admits of gradual extensions to meet the requirements as the neighbourhood grows. The buildings have been fitted with the electric light, and are warmed by hot-water apparatus at low pressure. The cost has been about 8,300*l.*

Mr. Henry Young, of Herne Hill, is the builder, and Mr. Rossiter has acted as his foreman of works. Messrs. Rosser & Russell have done the heating, and Messrs. Duncan Watson & Co. the electric lighting. The architect is Mr. Alfred Conder, F.R.I.B.A., of Palace Chambers, Westminster.

WELSH CONGREGATIONAL CHURCH, PENTONVILLE ROAD, KING'S CROSS.

THIS church has just been reopened after undergoing extensive alterations, one important object of which was to make the exits satisfactory. The staircases have been rebuilt so as to abolish winding steps with pointed ends, and an additional staircase has been added. The narrow front doorway, which served for the galleries as well as the ground floor of the building, has been superseded by separate doorways for each part of the building. The new porch which is shown on our illustration is built of terra-cotta of a greyish tint, in the same style as the building. In the basement under it some new lavatories have been added. The interior of the building has been altered materially. Additional light has been obtained; the floor of the church has been made sloping; new seating of pitch-pine and mahogany has been introduced, and a new gallery front made of similar materials. The acoustic defects of the church have been remedied; heating and ventilation have been attended to, and electric lighting has been substituted for gas. The entire building has been renovated, and the Sunday-school accommodation improved. The total outlay will exceed 4,200*l.*; this includes a new organ in course of erection by Messrs. Norman & Beard, of Norwich. The work has been carried out by Messrs. Grover & Son, of Islington, Mr. Hammond being in charge of it for that firm. The works connected with the heating and ventilation have been done by Messrs. Crittall & Co., of Noel Street, W. The electric lighting has been carried out by Messrs. Duncan Watson & Co., of 100 Charing Cross Road, W.C.

The architect who has designed and superintended the work is Mr. Alfred Conder, F.R.I.B.A., of Palace Chambers, Westminster.

ULSTER BANKING CO.'S BRANCH, SHANKILL ROAD, BELFAST.

THE new premises of the Ulster Banking Company stand at the corner of Shankill Road and Agnes Street. The walls are built of white Giffnock stone and compressed bricks, with a base course up to the ground-floor windows of Newry granite, from whence up to the first-floor windows it is entirely composed of neatly-wrought ashlar. The next two storeys are carried out in compressed bricks with stone dressings. The manager's residence is in Agnes Street. The banking hall measures 46 feet by 21 feet, and is 14 feet high. The floor is laid in tiles in the public space and with parquet in the manager's room. The strong-room has one of the Chatwood Company's steel doors. The general contractors were Messrs. Courtney & Co., Messrs. Blackwood & Jury, 41 Donegall Place, Belfast, being the architects.

ULSTER SOCIETY OF ARCHITECTS.

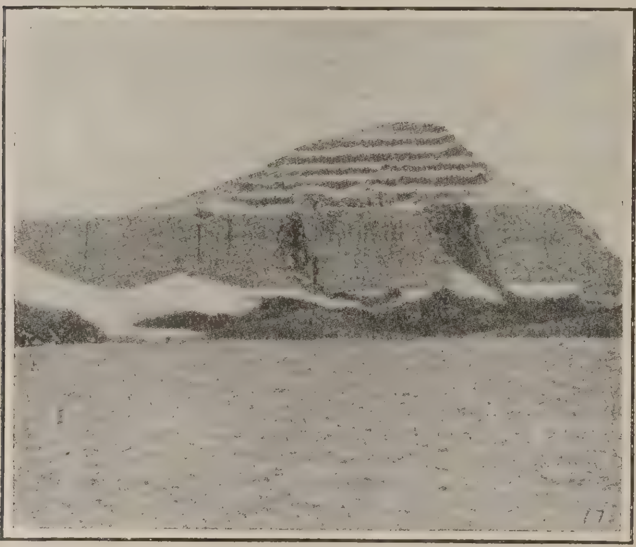
A GENERAL meeting of members, associates and students was held in the rooms of the Society, 13 Lombard Street, Belfast, on Tuesday evening, the 31st ult. The president (Mr. W. J. Gilliland) occupied the chair, and amongst those present were Messrs. J. J. M'Donnell, H. Seaver, N. Fitzsimons, W. Hartley Patterson, F. H. Tulloch, R. M. Young, W. J. Fennell, W. J. W. Roome, J. Barrett Robinson, Thomas Houston, W. Charles Maxwell, W. B. Fennell, hon. secretary, and others. The minutes of the previous general meeting were read and confirmed. Messrs. W. W. Houston and J. G. Armour were elected students. A discussion took place with reference to certain members of the staff of the improvement committee practising as architects. It was decided to write to the City Council to ask them to consider the matter. It was left in the hands of the Council of the Society to make arrangements for a scheme of lectures, papers, &c, for the coming winter. The President mentioned that the preliminary and intermediate examinations of the Royal Institute of British Architects would be held in Belfast on June 7 and following days. Other important matters were discussed and the proceedings terminated.

The Society of Antiquaries passed the following resolution last week:—"The Society of Antiquaries hears with great regret that the Croydon Borough Council proposes to promote a Bill in Parliament to destroy the Whitgift Hospital for the purpose of widening the road in which it stands. The Society ventures to express the hope that the Council will reconsider the matter, as it is informed that the object in view could be effected without destroying this interesting and beautiful building which still effectively serves the purpose for which it was erected three centuries ago."

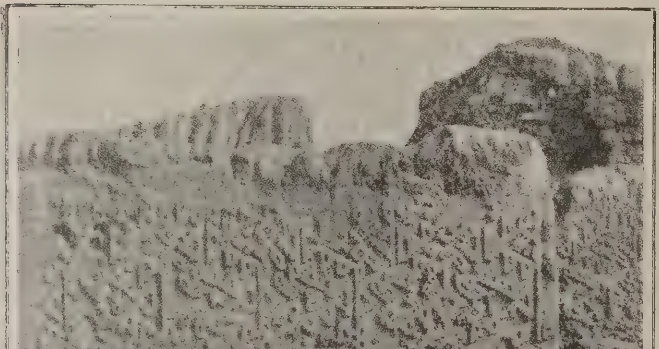
The Art for Schools Association during the past year sold 14,330 illustrations, and 161 schools, colleges and other educational bodies throughout the United Kingdom, India and the Colonies have profited in the past twelve months, either by purchase, loan or gift, by the work of the Association.

THE RUINS OF CHAN-CHAN.

An article on the Bandelier Expedition sent out by the authorities of the American Museum of Natural History appears in the *Scientific American.* Mr. W. L. Beasley says that one of the most noteworthy of the coast ruins investigated by Mr. Bandelier were those of Chan-Chan, commonly called Chimu, near the present city of Truxillo. The ruins extend for a distance of three miles, and are one and a half miles in width. Nothing remains of the original appearance and former grandeur of the buildings except well-laid foundations, massive and peculiarly ornamented walls and groups of single-storey gable-roofed houses and courtyards. Mr. Bandelier estimates that some 40,000 persons occupied the place. The best ancient information of the Chan-Chan ruins and those in the immediate vicinity is to be derived from the early Spanish chronicler, Cieza de Leon, who visited this locality about a decade after the conquest, and is considered the most trustworthy authority. According to De Leon this valley in pre-Spanish times was dominated by several powerful chiefs or lords who waged warfare continually with near and distant tribes, and were feared and obeyed by their subjects. Each lord or ruler resided in a great city, the seat of his realm, which contained various imposing buildings.



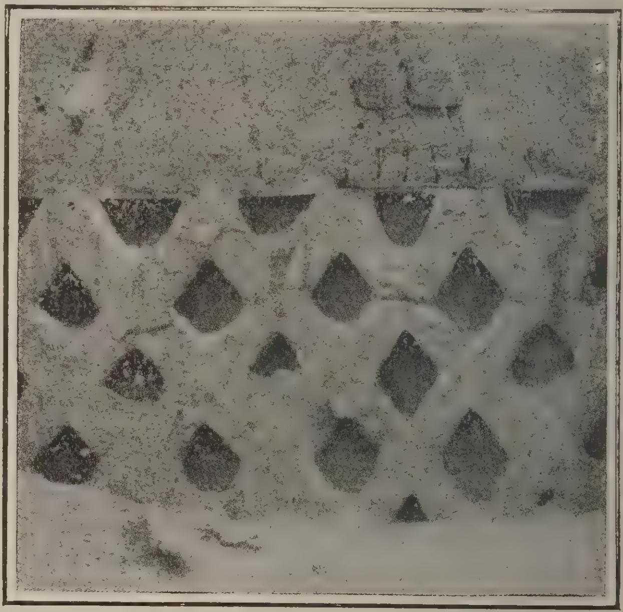
Great Pyramidal Mound of Moche (800 feet long, 150 feet high).



Decorated Walls, Ruins of Chan-Chan.

When these sovereigns were subdued by the Incas, still larger and more pretentious structures were erected. The architectural plan of Chan-Chan comprised a series of about twenty open squares or courtyards intersecting one another. On certain sides facing these were erected a number of palaces or religious edifices. Each square was surrounded by an exterior wall of adobe blocks 25 feet in height. The larger buildings contained innumerable chambers and corridors, traversed by narrow passage-ways. Many treasures of gold and silver are said to have been found in these chambers and apartments. Around one of the great public squares were arranged some of the one-storey adobe dwellings of the inhabitants. These are to-day graphically outlined, and preserve their original appearance, showing sharply-pitched gable roofs. There are no traces of windows. Light and ventilation seem to have been furnished by the door alone. It is supposed that some of the great squares and enclosures were occupied by the various craftsmen and industrial workers in pottery, weavers and dyers of fabrics, and fashioners of metal ornaments for the use of the ruler, his household and his priests. One of the curiosities discovered by Mr. Bandelier was an altar some 50 feet below the surface, which formed the heart of a great artificial mound, and which evidently occupied the central place in a large building devoted to religious worship.

One of the noteworthy phases of the Chan-Chan ruins were the ornamented walls of two of its buildings, thought to have been devoted to sacred purposes, or to have served as the abode of the ruler. In one instance a series of designs had been sunk a half foot or more in the adobe over the entire wall, now 7 feet high. Possibly these may have been apertures for hiding gold and other ceremonial offerings, and afterwards sealed up by an additional adobe coating. Another façade, 10 or more feet in height, is tastefully decorated with a network of frescoes in a series of duplicated designs of a conventionalised bird. These walls are surrounded by a mass of fallen débris, and nothing is left to throw any light upon their ancient splendour.



Niche-like Decorations.

Burial Tower, Sillustani, Peru.

Probably the most monumental and puzzling of all the Inca ruins is the great pyramid on the Moche river. Sphinx-like this majestic artificial mound rises upward in the air 150 feet, crowned by a series of terraces. It is 800 feet in length. The massive and imposing mound, reared by ancient builders, has marvellously defied time and vandalism, and still holds fast the secret of its creation, for it remains to-day a veritable enchanting riddle to the archæologist. No attempt has been made in recent times to excavate it. Tradition affirms that within lie buried fabulous treasures of gold, silver and precious objects. In the sixteenth century a tunnel is said to have been made half-way to its centre, and a large quantity of valuable ornaments obtained. This opening can still be penetrated, but no late investigator has attempted to push far within. Probably it was used as a religious shrine or sacrificial place, or, on the other hand, from its lofty and commanding position it may have been used as a strategic point to detect the approach of hostile invaders. The best-preserved architectural ruins, and those showing to striking advantage the extraordinary skill of the Incas in handling, polishing and setting massive stone blocks, are the chulpas, or burial towers. A celebrated and typical group is found at Sillistani, near Puna, built on a promontory 200 feet high. These peculiar and sumptuous sepulchres are termed by the late E. G. Squier, an authority on Peruvian culture, "the most elaborate and architecturally the most wonderful works of aboriginal Americans." The one here pictured is 25 feet high, 27 feet in circumference on the top and 22 at the base. The majority are round, others are square in shape. In these the bodies were interred with great pomp and ceremony, together with rich offerings of gold, silver and choice pottery. The interiors of the chulpas vary in size and construction; some have a single vaulted chamber, others two, arched over by stone. A few have niches. The entrance is gained through a small opening at the bottom, hardly large enough to admit the body of a man. This was closed by a stone slab.

On the islands of Lake Titicaca is located the traditional birthplace of the Inca tribe, and here were built several large and imposing structures, the ruins of which still exist. Not far distant was located Cuzco, the chief settlement. The population of Cuzco and the valley in which it is situated, according to Mr. Bandelier, is said to have numbered between 60,000 and 70,000. The language spoken was, and is now, Quicha. The whole place was built around courtyards or squares, and contained spacious buildings, constructed partly of huge, well-cut stones. The roofs, however, were of thatch. Some of the stones were of such stupendous size and dimensions as would test the best skill of the modern contractor to transport and put in place. This was accomplished by means of wooden rollers, ropes and crowbars. In most cases no mortar was used, the stability of the building depending on the skill in the close joining of the stone blocks.

WESLEYAN CENTRAL MISSION BUILDINGS, SHEFFIELD.

A COMPETITION having been arranged between ten architects for the buildings in Norfolk Street, Sheffield, which are to be used for the Wesleyan Central Mission, Mr. E. M. Gibbs was appointed assessor. Elaborate conditions were prepared, and the following suggestions were offered, although not obligatory:—

The buildings are to be for mission purposes, including Sunday and weekday services, classes and Sunday school; also for denominational meetings and bazaars, and further for letting for public undenominational meetings.

1. A large hall to hold 2,500 adults, with seats 28 inches back to back and 18 inches wide, with ample passages, platform and a space of 40 yards for an organ. The seats to be "lift up," and those on the ground floor to be removable. 2. A small hall to hold 500 adults, with similar extent of accommodation, but probably chairs. 3. A room to hold 250 and a room to hold 150 adults, with similar extent of accommodation. Nos. 2 and 3 may be used for Sunday school purposes. 4. Not less than twenty rooms of various sizes, say two for 120 adults, two for eighty and others not less than thirty adults, the seating space for each adult being 30 by 18 inches. 5. Room for minister, about 13 by 12. 6. An inquiry office near main entrance. 7. Two vestries closely adjoining the large hall and easily approached from the platform end of the hall. These may be included in the twenty rooms provided under clause 4, but if practicable should be in addition. 8. Kitchen with easy access, or lift, to some of the rooms provided under clauses 2, 3 and 4. 9. Caretaker's residence, with parlour, kitchen and three bedrooms. 10. Heating and ventilating on the warm-air plenum system. 11. Cloak-rooms, lavatories, &c. 12. Provision should be made so that the large hall with cloak-rooms, lavatories, &c., may be completely shut off from the other parts of the premises, so that the hall may be used for public purposes without interfering with the work of the mission in the other parts of the premises. 13. The large hall, the small hall and the two rooms provided in clause 3 should each have walls and floors sufficiently sound-proof to permit of singing in any one of them without much annoyance to any other. 14. The porch of glass and iron on the public footpath in accordance with Corporation conditions. The buildings may be of brick with stone dressings. The expenditure upon the buildings including heating, electric lighting of the whole premises, and the seating of the large hall, should not exceed 25,000*l*., exclusive of architect's commission and clerk of works salary. The assessor will check the estimates of the competitors and the cost of each design will be considered in relation to its other merits. The committee propose to retain the old school buildings unless any competitor can show some very good reason for not doing so.

Mr. E. M. Gibbs has given the following award:—

As the assessor appointed by you for this competition, I have to report on the nine designs submitted. My first duty is to determine which of the designs conform to the "conditions" and to exclude all others. It was stated that these conditions must be strictly complied with. I find that none of the designs do strictly comply with all the conditions, and I should therefore exclude the whole of them. But, considering that the conditions in this competition are unusually numerous, covering four pages of printed foolscap, and relate not merely to the drawings but to complicated questions of light and air, and to the city by-laws and regulations, and that the competitors have apparently endeavoured to comply, and in most cases have probably thought that they have done so, and, further, that the designs have been prepared at much cost to the competitors, I recommend the building committee to allow me to include the whole of them in my review; and, in advising as to the relative merits and selecting the designs, to carefully consider any advantage which has been gained for any design by such non-compliance and to discount it accordingly, and in my description of each design to call attention to the condition broken and its effect on the design.

Assuming that you will adopt this recommendation, I have very carefully examined the drawings and read the authors' descriptions, and have for my own guidance prepared a comparative analysis of the designs dealing with the extent of accommodation both as to area and as to seating of each hall and room, all calculated on the same method of seating, the ones for thirty seats and less being taken with one row of seats around the walls and none in the centre. I have also compared each large hall as to the level of floor in relation to street, main dimensions, height and cubic air space, number of galleries, number of pillars, and I have marked in pencil on the sectional drawings the rays of direct light admitted to each and stated the result. I have also compared the small hall and large rooms similarly, but in less detail, and have, further, compared the many other rooms, corridors, crush halls, &c.

I have found it impossible to do justice to the designs without describing at some length the leading points of each one, but I have endeavoured to be as concise as possible, and you can have the fuller information by reference to the comparative analysis, which is pinned to a screen along the wall of the room in which the designs are exhibited.

A comparative list of the authors' approximate estimates and my description of the designs is also exhibited.

Eight of the designs place the large hall above the level of the street, with the small hall and some of the classrooms under it, and one design, No. 6, places the main floor of the large hall below the level of the street, with the small hall in the building behind it and the classrooms above it. For a hall in which so large a number as 2,500 persons are to be seated, and at times a larger number are to have standing space, it is clear that the best and only proper arrangement of levels is one in which the floors are partly above the street and partly below, so as to render the entrances easy and the exits as safe as possible in case of panic.

For this reason alone Design No. 6 takes a high place, but incidentally the adoption of the lower level of large hall, by necessitating the placing of the small hall at the back and the classrooms above it, has made it possible for these rooms to be lofty and perfectly lighted, and this without placing the level of the classroom floors at a great height, being 17 feet 9 inches above the side entrance in Chapel Walk, only 9 inches higher than the floor of the existing church parlour in which the designs are exhibited.

In the eight other designs, with few exceptions, the halls and rooms on the lower floor are deficient in light. Of course, the deficiency is most where the lower storey is placed lowest in relation to the street, as in Design No. 2; but that it is inevitable in any design with rooms under the hall is proved by Design No. 5, where the lower floor is a few steps below George Street, the rooms are 20 feet high, and where with abundant windows and some skylights the rays of light passing over the buildings on the other side of Chapel Walk reach only 19 feet on to the floor, which is inadequate for efficiently lighting a room of 29 feet depth from window to back wall; much less so for larger rooms, as are shown in some of the designs in this position on the lower floor.

Unfortunately Design No. 6 shows some minor defects of planning and construction, as more particularly stated in my description of the design, and the architecture is not worthy of so important a building; but I am of opinion that all these defects can be remedied, and would very naturally be so done in the preparation of the working drawings, whereas any one of the other designs would require some amendments in the preparation of the working drawings, and none of them could be so amended as to compare favourably with the general arrangements and levels of No. 6. In making my award I have also to remember that the nature and extent of the accommodation to be provided were not made conditions of the competition, but were merely suggestive. And further, that the object of the competition is to obtain the best building for the special purpose, and that the designs submitted should be judged as suggestive sketches rather than as carefully elaborated working drawings. After very careful and long consideration, I have therefore to award the first premium to No. 6.

I award the second premium to No. 1, as having the most excellent large hall at a moderate height above the street, and excellent general arrangements, except as to height and light of small hall and the large room in basement, and the incomplete arrangement for the use of the large hall for public purposes without interference with the mission work in other parts of the building.

I award the third premium to Design No. 4, as the large hall is at a moderate height above the street; there is an exceptionally good small hall with the most excellent arrangement of corridor and classrooms around it, though some of the latter are not sufficiently high and are dull, and the arrangement for separation of large hall for public purposes is incomplete. Further, to my taste, the exterior design of this building is the most excellent of those submitted.

BELFAST CATHEDRAL.

By The Architect.

THERE is some interest for the Irish archæologist in tracing remote cathedral tradition connected with some primitive churches of the dioceses of Down and Connor and Dromore. As an institution of the Church of the Reformation, however, the Diocesan Cathedral Church begins its history at 1609, when the province of Ulster was a depopulated, war-stricken colony. Then it was that King James I., of blessed memory, was minded to set out a hierarchical scheme for those nominal Irish dioceses that he had never visited. It was a mere titular one, and apparently for long enough existent only in the grandiloquent phrasing of His Majesty's Royal "Charters." It is true that the king created, on paper—under reverent titles enough—a Cathedral Church of the Holy Trinity, of Down, a Cathedral Church of St. Saviour, of Connor, and a Cathedral Church of Christ the Redeemer, of Dromore—connected locally with mere hamlets or depopulated and waste places that had some lingering tradition as seats of ancient Celtic bishops. He liberally denominated for the system three deans, twelve greater dignitaries and seven lesser ones, being twenty-seven in all, and such dignitaries in title still survive. Where the Royal pedant was right was in recognising the abstract polity of perpetuating the Cathedral system of the primitive Church. Where he was wrong was in his Royal ignorance of Church history, his failing to know that the institution of the Cathedral and mother Church had in all Christian times followed population to its cities and centres. Its seat was often transferred, as local capitals of certain districts grew up. It was designed to be a predominating power in haunts of men. There was in King James's creation of titular dignitaries in connection with a roofless and deserted small Celtic *cella*, or the parish churches of a village or hamlet, an element of absurdity. It, however, had a use, inasmuch as it designated a locality in each diocese where a godly succession of churchmen-bishops exercised a primary duty of visitation of their clergy through 250 years.

It was not vouchsafed to the prevision or second-sight of the Scottish King James that the future of a waste colony and province should see the aggregation of a great industrial population and the capital for 100,000 Irish churchmen at the ford of the embouchure of the river Lagan called Belfast.

A time came in the 250 years' existence of dormant "charters" of James when thoughtful churchmen, arising from the blow of disendowment of their Irish Church in 1870, began to yearn for the ideal of a mother church and centre of organisation in their diocese. Before disestablishment it had not taken hold of men's minds, perhaps, that a cathedral was more than an ornamental and pleasing installation of a superior church with high and cultivated form in its services. That may be recognised as the misapprehension underlying the half-heartedness about proposals in the time of Bishop Knox, nearly fifty years ago, to erect such a church on some site of ideal beauty to be sought in suburban Belfast. It was such a conception as was that of two rich and well-intentioned ladies of Scotland, about the same period, to build an exotic church for English churchmen in Edinburgh on an eligible new building plot in a villa suburb of that city.

It presented itself early in the Belfast Cathedral movement to Vicar O'Hara and his counsellors that a true mother Church must be in the heart and centre of Belfast city and not the church of a suburb. It was then manifested that to provide an ideal and spacious site in such a centre, where value of building sites were inflated, would involve an initial expenditure of 40,000*l.* to 50,000*l.* That was a condition impossible to face, and there was no alternative but to make the most of that area which the Church had inherited from earlier days, 130 years ago, the churchyard of old St. Anne's, at Donegall Street.

The new cathedral rising on this restricted site is in its plan and style of architecture a departure in precedent from those of Cork, Truro, the projected one in Liverpool, and, it may be added, at Edinburgh and Inverness, the only cathedrals, except St. Paul's in London, which have been newly built in Great Britain and Ireland since the Reformation. At the Reformation the English Church found itself richly endowed with grand churches of Mediæval architecture, more than thirty in number, built under monastic influences. A glorious heritage were these, of incomparable architecture, interwoven with the history of the English people in their memories and with fascinating charm for English-speaking people of the whole world still. Few men have comparatively thought to question that in their plan, designed under a monastic system that had grown up in the Middle Ages, they did not present for use now an ideal cathedral of a Reformed Church reverting to primitive simplicity. The wave of ecclesiastical enthusiasm for their architecture was at its height fifty years ago, when church restoration, and what is now remembered as the Gothic revival, had possession of the clerical mind. Its force is somewhat spent now, but under its tradition all those new cathedrals which have been named above have been imitative of the Mediæval type and style as the only thing possible for an English church. Fifty years ago, however, there was even then an accomplished ecclesiologist and enthusiastic church builder, Mr. Alexander J. B. Beresford-Hope, who had doubts, even in his sympathetic mind, that the old Mediæval and modern imitative type of cathedral was consistent in its conception with the ideas of the English Reformation and the primitive Church. In a logical and closely reasoned book, "The Cathedral of the Nineteenth Century," Beresford-Hope felt constrained to put forward this doubt. His, however, was a voice crying in the wilderness when he prophesied that a time might come when in another century a type of church reverting in its congregational plan to the basilican one of the early Christian church, and in the development of architecture, would differ from that of the Gothic cathedrals of England.

At first, as was but natural, in the inception of the cathedral movement in Belfast there was present to its promoters the creation of a glorious church in the recognised and prevailing style, and there were still architects enough versed in it of the days of "Gothic revival" (now a lessening number) to be found to produce a design of correct imitative thirteenth or fourteenth-century cathedral architecture. Such a design was sought and obtained on paper, and now is to be seen on the walls of the Diocesan Rooms. However, when the cost of realising such a design was estimated as not less than 200,000*l.*, and there came to be considered the inadequacy of its congregational size if confined to old St. Anne's site, and the extravagance inherent in the style as out of place on such a site, the project of a cathedral for Belfast was discouraged. It was then that the minds of Vicar O'Hara and his friends in council were turned to the cathedral idea as presented by such authorities as Beresford-Hope and the late Archbishop of Canterbury. To architects was referred a question, Is it possible to devise a cathedral church to fulfil its essential purpose, not necessarily in the accepted style of architectural treatment, of a plainer and yet not undignified character, and which, fitted to the restricted site of old St. Anne's would give Belfast a great congregational church for 3,000 or 4,000 worshippers? The reply that came from architects in council was that it was possible, and further that it seemed a more sensible form of project under the circumstances of Belfast; that in existing types of churches of the basilican sort still to be studied as preserving the primitive traditional idea in the conservative Church of Italy, there were suggestions for such a church not wanting in nobility and impressiveness. There was present to the architectural mind that this suggestiveness did not extend to the architecture of the Italian Classic Renaissance in which such Roman churches were clothed, which by association with countless secular and profane uses in stereotyped forms had ceased to be distinctive of a church. There was a consideration in this departure of architecture for a modern cathedral that it would be one of slow building in a twentieth century, and to be inevitably completed, adorned and decorated in the development of art of that century, and that the tendency of its evolutions should be respected. These were considerations that led to the adoption of a style for new Belfast Cathedral, not quite new or quite old, but inspired by study of examples of earlier churches of the Romanesque period which were nearer in the centuries to the original cathedral tradition, and which, in the south and west of France especially, even in the twelfth century, present a tradition of the dignities, grace and refinement of proportion of ancient Classic art. Such a round-arched style not imitative in detail, merely archaic or grotesque or eccentric may, it is hoped, provide the *corpus* of a great and plain church with which the decorative adornment yet in perhaps a century to come will not be incongruous. As an architectural monument of the city of Belfast it must await a time when public spirit or piety will build its chief architectural façade facing the west in Donegall Street at a cost of 10,000*l.* or more, and ultimately its great central lantern or bell-tower (for which bells are even now offered) designed to rise from a base 56 feet square to a height of 200 feet, which would dominate low-lying Belfast.

The ground plan of the complete Belfast Cathedral is a simple one, presenting a symmetrical Latin cross in form, which adapts itself to the limits of the site. It consists of a nave and lateral aisles, the shell of which is now built and roofed, of a "crossing" designed to be the base of a great central tower externally, and internally the central space where the *Chorus Cantorum* is ultimately intended to be set up among the congregation. They will be placed in the nave westward of it and transepts to the north and south of it. To the east of this choir will be a chancel of similar size to the transepts, viz. 40 feet by 40 feet internally. The erection of stalls for the clergy and choir in the nave at present is but a temporary one, as is the gallery for the organ near it. Ultimately it is intended that the chancel shall have an upper lateral organ aisle sufficient for a large instrument. It is also intended that the nave shall have two lateral aisles, the foundations of which are laid at the west end, one of which will be a necessary adjunct for verger's or cathedral keeper's purposes. The other on the south side it is proposed shall be a memorial of old St. Anne's, in which its stained glass and other monuments shall have an honoured preservation.

This describes fully the simple plan. Where it differs from the typical plan of such a cathedral as, say, St. Patrick's of Dublin, is in its spacious dimensions, the nave at Belfast being 40 feet wide as against 30 feet in St. Patrick's, and with its aisles calculated to accommodate a congregation of 2,000 in itself. It differs also in the greater dimensions of its bays, its arches embracing larger spans and its massive pillars rather than piers occupying less areas. The width of the nave and aisles from north to south is 85 feet, and the length, divided into six bays of 20 feet each, is 121 feet. The height to the coffered ceiling is 80 feet. It is a differing feature from other cathedrals that it has not a groined and arched ceiling of stone. It has a coffered ceiling of wood such as is characteristic of well-known Italian basilican churches, a feature designed as advantageous to acoustic effect in a church of great size. Of materials, the whole church will be massively faced inside and outside with wrought stone. For the most part it is Somerset stone, such as that of which Glastonbury Abbey was long ago built, and recalls a time when this water-borne Somersetshire oolite was the universal one used in Eastern Ireland for wrought masonwork, and still proves to be the most economical and durable at command at Belfast. For the great bearing pillars and arches stone from the island of Portland is used. The wall lining of the interior is of warm-toned red Dumfries stone. The coffered ceiling of Australian sequoia wood, resembling red cedar, repeats the pleasing colour of the wall.

When it is said that the interior awaits sculpture and decorative art of the future an exception should be made as to stained glass. Already two fine memorial windows, the gifts of Sir Daniel Dixon and Mr. Robert S. Reade respectively, are to be found in the south aisle; but coming from the hands of the same artist, a special acknowledgment of the remarkable window which fills the triple lights of the western gable is claimed. It is the gift of an anonymous donor, desirous only that, regardless of its cost, it should be the highest work of art that the glass-painting school of England can produce, that it should be untrammelled by conventionalities which would tie the hands of an able artist as an exponent of the art of his time, that its subject should be the Building of the Temple, and that it should be a keynote for harmony of future decoration and adornment in the church. The commission, placed in the hands of Mr. James Powell, respected among architects as a great artist in stained glass, did not perhaps excite at first more than ordinary enthusiasm to be executed well as a matter of business. It was when Mr. Powell visited Belfast and realised what a setting for a great work was in the great plain gable as its frame, of its magnitude of scale and its colour surrounding, that his enthusiasm rose to the occasion to make a window for Belfast a notable work. A first visit to Lucca in North Italy, and a second one specially made to study a great window there which was an artist's ideal, has inspired a remarkable work for which various tones and qualities of glass have been experimented on, and specially cast and fired at the works at Whitefriars. No consideration of labour and cost seems to have stood in the way in producing the varied beauties of tone and wealth of detail and fine classical drawing which make this window of unlimited interest to study.

The pulpit is an early contribution to the decorative fitting of the church, and a costly one. It is true that it is carved in a certain florid French Gothic manner that was a temporary architectural fashion some forty years ago and would not be imitated in more severe decorative features now. It is, however, a magnificent costly present, peculiarly gratifying as a free gift and earnest of good-will by the Dean and Chapter of Westminster Abbey to the Church in Ireland. It was designed by the late Sir G. G. Scott, R.A., and executed by Messrs. Farmer & Brindley for the nave services of the abbey at a cost of 2,000*l.* about the year 1864.

In conclusion, reverting to the spirit and intent of the promoters in this foundation, the Bishop of the Diocese, the present Bishop of Cashel, first Dean of Belfast, and his sympathetic successors, the present Bishop of Clogher and Dean Robinson, and the laymen of Belfast who have stood by them loyally in their efforts and finance, the case is defined in the following paragraphs taken from the "Irish Churchman's Almanack" of 1903:—

"The cathedral is the mother church of a whole diocese, and should be for greater occasions and common purpose the resort, as of right, of every churchman in the diocese. This was the conception of the early Christian Church, and such was the ideal present to the minds of the Reformers of the English Church in the sixteenth century. The true cathedral was described by the Judicious Hooker as 'a glass wherein the face and very countenance of antiquity remaineth to be seen, notwithstanding the alterations which the tract of time and the course of the world hath brought.' The great church for Down and Connor and Dromore is but the fourth cathedral built in England or Ireland since the Reformation. Thirty-two cathedrals of England and Ireland which now fulfil the function of mother churches in their respective dioceses are noble buildings, surviving from pre-Reformation times, and originally planned for the monastic system, and are expressive of a segregation of clerics from the laity rather than for community of worship. A first opportunity is given to the great northern diocese of Ireland, in 350 years since the reformed Book of Common Prayer was framed, to create a cathedral church conceived in the tradition of the primitive Church of the earlier Christian centuries, and yet for the practical purposes of a cathedral in the twentieth century and its development of choral worship and latter-day community of intercourse.

"The plan of the Belfast Cathedral reverts to that of the basilican type of the early Church expressive of its earliest constitution as a Civitas Dei, wherein bishop and clergy and choral ministrants were associated with all the company of the faithful laity, each in their allotted places. Its architectural style, consonant with its basilican type of plan, is somewhat of a reversion to that round-arched semi-Classic style which preceded the development of the Pointed style in the thirteenth century, and seems more adaptable to the art of the twentieth century we live in, which is passing away from imitation of Mediæval models.

"The plan is designed to embrace a choir and chancel and transepts planned for bodies of singers supplementary to the usual body of choristers on the occasion of greater choral services. The place for a great organ in the modern cathedral is also provided. The internal length of the church will be 210 feet 6 inches, and its width across the nave and aisles 88 feet. The carrying out of the complete ground plan, fitted for the worship of a cathedral corps and a congregation of 4,000, will cost 70,000*l.* When the west front or narthex, with its impressive entrances at Donegall Street, is complete, and the great central belfry, 56 feet square, has risen in its mass—to dominate low-lying Belfast—to a height of 200 feet, the total cost is estimated to reach 100,000*l.*

"It may be, as has been the usual history of great cathedral building, that in the will of God it may not be granted to our generation to see the realised completion of this work as its promoters have designed it, nor have they speculatively presumed that to their hands should come in their day the whole funds to complete a cathedral. Their conception of a cathedral according to the lights of their day and generation in the Church of Ireland they have in faith begun, laying its lines broadly and building massively and monumentally for future time as old builders did, and in the certain hope that those who are to follow them will carry on the work in like spirit, and according to the mind of the Church and the architecture which the tract of time may bring."

The expenditure of the Cathedral Board up to the present, when the tide of generous contributions has for the time ebbed and a first contract with the builder, Messrs. Laverty & Sons, of Belfast, is closed, has exceeded 30,000*l*. The architect who is responsible for the design and carrying out of the inception of a great work is, as known to many, Sir Thomas Drew, native-born in Belfast 65 years ago, and with ties of connection with the diocese for 40 years. To another architect of Belfast, of great and deserved reputation and resident, Mr. W. H. Lynn, the promoters of the cathedral and the responsible cathedral architect must alike make acknowledgment for unfailing sympathy and willing and wise counsel ever at hand. The electric lighting, in arrangement specially devised by the architect, has been carried out by Messrs. Coates & Son, Ltd. It is perhaps remarkable that in every connection of those who carried out this work of building have been found men of Belfast harmoniously agreeing to give the best of their mind and skill to a monument for the honour of their Church and city.

ARCHITECTS' CHARGES IN AMERICA.[*]

IN the course of the remarkable expansion which has placed the United States in its present commanding position, its building industry, as a natural consequence, has undergone radical changes.

In spite of this fact the general methods of designing and executing work, so far as it devolves upon the architect, remain to a great extent as before, and it would therefore seem reasonable to assume that the present custom of employing consulting architects as confidential agents of owners, and the present manner of letting work to builders may be considered as having stood every test and as likely to be adhered to in general features for an indefinite period to come.

Experience has taught, however, that as between the architect and the builder the work is not in all respects divided in an entirely logical and reasonable manner, in that certain parts of the detail drawings and outlays (shop outlays, setting plans, &c.) have been removed from their natural connections in the architect's office and now form part of the builder's work, because the present antiquated system of architects' charges renders it impossible otherwise to provide for them.

Under modern conditions full and complete drawings and outlays and ample superintendence and testing constitute the requisites of speedy and economical building. This has been amply illustrated by past experience in the building trades themselves, as well as in the work of civil and mechanical engineering, and it appears equally logical and, in fact, self-evident that this work and the entailed responsibility should be placed upon the architect.

This can be accomplished by in some way establishing a rational system of architects' charges, based on the elements of services rendered or else by leaving the question to be regulated by natural laws.

Our present system, if it deserves that name, is in reality nothing but an obsolete rule of the eighteenth century, established for the public buildings of France as a fair average for a rather uniform class of work, which therefore takes no account whatever of the infinite variety of modern types of buildings, conditions of employment, individual requirements, standing of practitioner, &c., and the application of which to modern work is indeed, as George Edmund Street is said to have remarked even fifty years ago, "a great absurdity."

History of the Five per Cent. Rule.

Under the schedule established by the American Institute of Architects, the compensation for so-called full services is fixed at 5 per cent. on the cost. Historically percentage rules, and more particularly the 5 per cent. rule, originally came into being as a fair average for the public buildings of France. Previous to the end of the eighteenth century all architects were probably paid salaries or grants. However, with the beginning of the architectural profession in the modern sense of the word during the eighteenth century, it seems to have become customary in France to pay the architects for public work 5 per cent. on the cost as a fair average for a class of architects and a class of work very nearly uniform in standing and character. This custom was enacted into law during the French Revolution, was adopted by most architectural bodies as the only precedent available and gradually spread to other countries. It was probably the best that could be done under the circumstances then prevailing. But at the present day, while not underestimating the past usefulness of the 5 per cent. rule, the impression is undoubtedly gaining ground that the architectural profession has entirely outgrown the necessity for it, that it is, in fact, now difficult of application, unjust in its workings and productive of conditions operating to the distinct injury of the building interests of the country at large.

It may be observed at this juncture that European and American conditions in the architectural profession are not at all identical, and neither are those of the building trades. The conditions of architects' employment vary considerably in the different European countries, and are everywhere different from those prevailing in the United States; in England, for instance, the 5 per cent. rule really means 7½ per cent. in addition to the wages of the superintendent, 2½ per cent. on the cost being added for quantity surveying.

In order to meet the objections to percentage schedules, amendments and classifications have been tried in some European countries on a very elaborate scale. But the difficulties of charging so as to meet the ever-increasing complexity of conditions determining architects' employment are steadily multiplying, and it is always an open question to what extent owners would accept amendments.

The very fact of the classification shows also that the 5 per cent. schedule cannot be applied to all classes of buildings, and that the originally fair average for public buildings in France is not fair and reasonable for all classes of buildings to-day. At the same time it is clear that the establishing of several percentage rules instead of one must be a fruitful source of trouble and contentions.

The Present Schedule in its Application.

We referred above to the fact that the 5 per cent. rule originally represented an average and probably a fair average for services rendered. Such is not the case under modern conditions. Heating, plumbing, electric wiring, steel constructions and all the thousand and one improvements and appliances now to be located and studied to the great complication of plans did not exist. Each locality possessed only one or two materials of each kind, as a rule, and the present enormous market of materials and variety of constructions were yet to come. Under present conditions a greatly increased amount of drawing, supervision and other work has thus gradually been added to the architect's work. On the other hand, the changed conditions which have brought it about have also made the services of capable architects exceedingly valuable in a new direction, in that the selection of materials and methods of construction for a given purpose necessarily leave a wide scope for exercise of judgment in the accomplishment of the greatest possible results with the least expenditure.

The architects of the United States have thus gradually come face to face with a new condition, vastly increasing their work, outlays and responsibilities, and due mainly to the following conditions, namely:—

1. The new systems of construction and complicated appliances.
2. The variety of materials available.
3. The speed of execution demanded.
4. The increased cost of labour—to offset which a better organisation of the builder's work became necessary with increased shop work and reduced field work.

At the same time the organisation of a building enterprise gradually became impossible except upon the basis of complete and well-studied architects' plans. While the work and responsibility of the architect were thus vastly increased, it is also true that buildings became more expensive because more complicated, and in many cases the present schedule is fairly satisfactory. But in the great majority of cases it is not so, and as between the different classes of buildings it is unfair in operation, the simple constructions and work of repetition being vastly more remunerative than complicated structures and work requiring careful study in all its parts, which is, of course, the exact reverse of what a rational schedule should accomplish. It also provides for a supervision which is in reality insufficient and therefore unworkable.

I think there can be no question that a more complete system of shop drawings would both cheapen buildings and shorten the time of construction, and the architect should be put in a position to prepare these drawings absolutely complete and ready for the workmen, which is not now the case. In some cases the arrangement I here suggest has proved indispensable; for instance, in the matter of steel constructions, &c., where the specifications require the contractor to include in his bid the cost of the shop drawings at a certain price per ton, the engineer to be appointed by the architect.

The Principle of Percentage Schedules.

Another series of objectionable features may be said to have their origin in the fundamental fact that the 5 per cent. rule, which originally was arrived at as a fair average, has now been raised to the dignity of a principle. Unfortunately it is not defensible as such. It is neither an axiom nor a tenet rendered sacred by general usage.

In the course of time, in certain lines of business, like banking, real estate, &c., certain transactions have been fixed by law or custom at a certain percentage on the amount involved. But architects' services are in no sense brokerage. Other methods of regulating wages and employment are those adopted by the ancient guilds and the modern labour unions, but architects are not employed by the day. How, then, can we defend the implied denial of difference in skill, in experience, in talent and special fitness for a given task and the placing of the official stamp of the American Institute of Architects upon the proposition that, as far as it is concerned, the services of the novice are as valuable as those of the experienced and expert, those of the well-educated as good as those of the less well trained, those of the successful no better than those of the unsuccessful? In spite of the fact that the schedule is marked "Minimum Schedule," this certainly bars the successful practitioner in the great majority of cases from obtaining the increased price which naturally should be his, limiting him to the one reward of doing more work with its added cares and responsibilities. This point is extremely important.

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[*] A paper by Mr. Arne Dehli, published in the *Architectural Record* of New York.

There can be no question that, even with the most efficient organisation, the amount of work which one man can directly inspire and carry out is small compared to that handled by many offices to-day; and, conversely, it follows that the successful architect of to-day gives his name to and assumes the responsibility for a large amount of work of which he is not the real author. There is no other road open to him. From the point of view of public policy this is certainly not a desirable condition, and in view of the fees paid other professions and the sums entrusted to successful architects of the present day, entailing corresponding responsibilities, it would seem fair to infer that the 5 per cent. rule is the main, if not the only obstacle, to successful architects obtaining such fees for important work as would enable them to limit their work to what they can personally perform with proper assistance

The 5 per cent. schedule also stamps with the Institute's approval the principle that the services and ideas of an architect are valuable in proportion to the cost of carrying them into execution. On this principle advice becomes valuable only when expensive to follow. The conflict between the original conditions and our own is here most apparent. Viewed as an average for public buildings in France it appears quite fair that a large building should earn a proportionately greater fee than a small one. Under the complex conditions of modern times the same rule becomes in many cases absurd, as, for instance, in many alterations involving a very small outlay yet compelling on the part of the architect a complete study of the entire building or plant, and on the part of the owner a benefit out of all proportion to the fee sanctioned by the schedule.

A design in a cheap material earns a double fee by being executed in a material twice as expensive, and architects under this rule are paid for wasting their clients' money and punished in pocket for saving it. Under the present contract system the working of this rule becomes particularly vicious in the following manner, *i.e.* a set of plans and specifications necessarily embrace a large amount of work of many different trades. Therefore the degree of care, skill, experience and familiarity with the working processes and other conditions of all these trades, which is employed in the architect's work, must needs to a large extent influence the estimates obtained, and sums are easily saved or wasted in this way which far exceed the architect's commission.

Under the present schedule the exercise of such care and skill operates to reduce the architect's commission. If he manages to defeat an unjust claim or secures good terms for his clients, he is at the same time conscious that his efforts will reduce his own commissions.

Analysis of the Value of Architects' Work.

In considering the different ways in which architects' services influence the cost of buildings and their permanent value, we may view these services under two heads, namely:—

1. In their bearing on the building operation itself and preparations for the same, and
2. As a factor in the permanent or investment value of property.

The immediate value for the prosecution of the building operation itself is apparent and should be easily understood. But few realise that the permanent or investment value of buildings depends to a large extent on the architect. Yet such is the case nevertheless. The immediate value during the building operations may be considered under several heads, namely:—

1. In safeguarding the interests of the owner in the letting of the work and during the construction.
2. In applying expert knowledge of methods of construction and materials available towards securing for clients the greatest result for the smallest possible outlay.
3. In so adapting designs to the conditions which they are to serve as to secure the greatest possible efficiency, rentability, economy of management, &c.
4. In the quality of art work accomplished in design and execution.

In point of any one of the heads mentioned the value of a design will and must vary according to talent, skill, experience, &c., and once the public were taught to look for it it would soon register its experience in records for each architect on which his fee would to some extent depend.

It becomes apparent at first glance that several of the factors which are of immediate value will also influence the investment value of property. So will, for instance, the care exercised in obtaining conscientious work soon make itself felt in the repair bills and generally in the wearing qualities of constructions and their permanency, while the degree to which a design is adapted to its purpose will in many cases absolutely decide the investment value of the property. This is self-evident in apartment houses, hotels and office buildings, but it is equally important in residences and even in factories in which latter a badly studied plan imposes a permanent tax of wasted labour, often a very serious one.

The rate of insurance has also been found to rest, to a large extent, in the architect's hands, and the amounts saved and wasted are doubly serious because levied both on the cost of buildings and their contents.

In the matter of residences it is startling how quickly many so-called speculative dwellings decline in value, even in first-class neighbourhoods, and it is equally surprising how well-designed and well-built houses satisfying all proper requirement will hold their value even under objectionable surroundings.

A thorough appreciation of the elements of architects' services and their bearing on results accomplished as well as a more satisfactory handling of working outlays would necessarily lead to a largely increased employment of experts, and possibly to the establishment of specialties in the architectural profession itself.

Specialists in designing and specialists in executing work might not prove an unmixed evil. Such a division might be natural and advantageous in cases, just as undoubtedly the greater number would remain "general practitioners."

The selection of a professional adviser is largely made on personal grounds, and it would seem reasonable that a client should have an opportunity to obtain a design of recognised authorship in connection with his accustomed architect, as his physician may call in another physician for consultation in important cases.

THE DICTAEAN TEMPLE.

THE late director of the British School at Athens, in a letter to the *Times*, says:—Mr. Macmillan's communication to you concerning the Temple of Zeus Dictaeus is of singular interest. The shrine in question is mentioned by Strabo in a connection which seems to imply that it was the national fane of the most aboriginal Cretans. Its ruins ought, therefore, to contain unusually good evidence as to early Cretan religion. The site on which Mr. Bosanquet has located it is that of a large prehistoric town, probably the earliest capital of Eastern Crete. This was deserted later for healthier spots, but apparently the old shrine still remained, preserving the tradition of the Golden Age. A famous document, of which one copy on marble was found long ago near Palaikastro by Pashley, and a second turned up lately at no nearer a spot than Magnesia on the Maeander, records the restoration of the ancient limits of the temple territory in Roman imperial times. Although this inscription described the boundaries, and more than one explorer of East Crete has fixed on Palaikastro itself as the actual site, it has taken three years' search to locate the temple exactly. Now students alike of history, religion and language will look forward to its exploration with the liveliest interest. There is reason to think it was used as a sort of local record office, and it lay in a district of the island which long preserved the primitive tongue and expressed it in Greek characters. The site, therefore, ought to yield documents of various ages and quite exceptional value.

ARCHITECTURAL ASSOCIATION OF IRELAND.

THE final general meeting of the Association was held on Tuesday evening, May 31, at the Grosvenor Hotel.

The president, Mr. Charles H. Ashworth, M.R.I.A.I., occupied the chair. There was a fair attendance of members, including Messrs. E. Bradbury, George F. Beckett, J. W. Beckett, T. L. Cullimore, R. Donnelly, E. Haghe, C. Harrison, Frederick Hayes, F. G. Hicks, Joseph Holloway, T. E. Hudman, H. G. Leask, A. G. C. Millar, J. Moore, C. G. Ramsey, Edmund Sharp, Frederick Shaw, T. E. Sparrow, P. Tomlin, James H. Webb, &c.

The result of the ballot for officers and committee for the ensuing session was announced as follows:—

President, Mr. James H. Webb; vice-presidents, Messrs

Geo. F. Beckett, A. G. C. Millar; committee, Messrs. Chas. H. Ashworth, F. G. Hicks, L. O'Callaghan, G. P. Sheridan, C. J. M'Carthy, C. H. Mitchell, R. M. Butler, Joseph Holloway, G. G. Lynes; hon. treasurer, Mr. Edwin Bradbury; hon. librarian, Mr. W. D. E. Butler; hon. secretaries, Messrs. Frederick Hayes and H. G. Leask; hon. auditors, Messrs. J. P. Wrenn and W. H. Ward.

The prize-winners for the session were announced as follows:—

The Association Travelling Studentship, Mr. R. Donnelly; the Institute Prize, Mr. R. Donnelly; the President's Prize, Mr. G. G. Lynes; Mr. Harry Allhovey's Prize, Mr. Vivian Haghe. Architectural History Class—1st, Mr. J. W. Beckett; 2nd, Mr. J. Moore. Class of Design—1st, Mr. H. G. Leask; 2nd, Mr. Vivian Haghe.

The alteration in the constitution and by-laws as proposed by the committee was discussed at length. It was decided that the proposed alterations, with slight amendments, should be brought forward and voted upon at a special general meeting.

The President delivered his valedictory address, briefly reviewing the work of the past session.

The usual votes of thanks were then passed to the retiring officers, Mr. Webb was moved to the second chair, and Mr. Hicks proposed a vote of thanks to the retiring President, which was passed unanimously. Mr. Ashworth having suitably replied, the meeting terminated.

TESSERÆ.

Toreutic Art.

THIS seems to have been the combination of distinct materials, always including metal, worked or chased together. The shield of Achilles, as described in Homer, exhibiting different colours, may most probably have been an example of toreutic art. There are instances existing of inscriptions, in a different metal from the statue, being inserted into the figure. Cicero speaks of an Apollo inscribed thus with the name of its author Myron. There is a bronze statue in the Musée in Paris of a youth on the left foot of which are the remains of two Greek words in silver letters. Many examples occur of the introduction of foreign substances, either metal, precious stones, glass or paste, in statues and busts of the best period of Greek sculpture. The practice is not limited to the eyes, but instances occur of the lips being thus inlaid. There are examples of it in the fine collection of bronzes in the Museo Borbonico at Naples, and some instances may also be seen of it in our national collection in the British Museum. Among barbarous nations the introduction of varied and rich materials and colours is universally met with in their sculpture. It might cause surprise to find the same custom patronised among the refined Greeks when their art had reached its highest perfection, if it were not known that certain forms of art were prescriptive from their antiquity, and that in all works connected with religion (and almost all sculpture was directly or indirectly so applied) the artists were bound by established regulations strictly enforced by the priests and supported by public opinion.

The Temple at Tivoli.

No building is more universally admired for its beauty than the Temple of the Sibyl at Tivoli. Let us then consider what are the qualities of beauty according to Burke and how far they apply to beautiful buildings in general, and to that in particular. Those qualities are, first, to be comparatively small. Secondly, to be smooth. Thirdly, to have a variety in the direction of the parts; but, fourthly, to have those parts not angular but melted as it were into each other. Fifthly, to be of a delicate frame, without any remarkable appearance of strength. Sixthly, to have the colour clear and bright, but not very strong and glaring. The temple at Tivoli has as much of those chief principles of general beauty as the particular principles of architecture will allow of. It is circular, surrounded by columns detached from the body of the building; it is light and airy, of a delicate frame, in a great measure free from angles and comparatively small. The conclusions relate to the building as it must have been in its perfect state, when the tint of the stone and the finishing and preservation of all the parts corresponded with the beauty of its general form. Its actual state suggests many reflections on the effect of partial ruin and decay; but as a further proof of its beauty it may be added that Claude has repeated it much more frequently in his landscapes than any other building.

Jonathan Richardson.

After Kneller and Dahl passed away Jonathan Richardson was considered the most successful English portraitist. There is strength, roundness and boldness in his colouring; but his men want dignity and his women grace. The good sense of the nation is characterised in his portraits. We perceive that he lived in an age when neither enthusiasm nor servility was predominant. Yet with a pencil so firm, possessed of a numerous and excellent collection of drawings, full of the theory and profound in reflection of his art, he drew nothing well below the head, and was void of imagination. His attitudes, draperies and backgrounds are totally insipid and unmeaning; so ill did he apply to his own practice the sagacious rules and hints which he bestowed on others. Though he wrote with fire and judgment, his paintings owed little to either. No man dived deeper into the inexhaustible stores of Raphael, or was more smitten with the native lustre of Vandyke. Yet though capable of relishing the elevation of the one and the elegance of the other, he could never contrive to see with their eyes when he was to copy nature himself. One wonders that he could comment on their works so well and imitate them so little. He quitted business some years before his death, but his temperance and virtue contributed to protract his life to a great length in the full enjoyment of his understanding and in the felicity of domestic friendship. He died suddenly at his house in Queen's Square on May 28, 1745, in his eighty-first year.

GENERAL.

The King has consented to lay the foundation-stone of the new buildings of St. Bartholomew's Hospital. His Majesty will on July 19 lay the foundation-stone of Liverpool Cathedral.

The Arbitration, Gaiety Company *v.* London County Council, was resumed on Monday last after an adjournment from April 28 to allow of the presence of Mr. Norman Shaw, R.A. It will be remembered that a sum of 25,000*l.* is claimed by the company, being the expenditure resulting from the official demands as to architectural embellishments. The London County Council acquired the site of the old Gaiety theatre for the Strand Improvement Scheme on condition that another site and 50,000*l.* for the erection was given to the company. It was decided on Monday last that the arbitration proceedings are to be conducted in private.

The Works Committee of the Dundee Town Council recently considered the appointment of a city architect in succession to the late Mr. W. Alexander. It was agreed to recommend the Council "That Mr. James Thomson, assistant burgh engineer, be appointed to discharge the duties of the office, this appointment to be held during the pleasure of the Council and without additional remuneration."

Cologne Cathedral, on which such vast sums were expended about half a century ago, is now declared by a commission to need further costly repairs which must be promptly undertaken.

A Secondary Day School, to cost 25,000*l.*, is proposed to be erected as a memorial of Cardinal Vaughan.

Mr. Sidney Webb, LL.B., has been appointed to represent the University of London as an advisory member upon the Board of Architectural Education, recently constituted by the Council of the Royal Institute of British Architects.

The Plans of Messrs. Nicholson & Dotchin, architects, Clayton Chambers, Newcastle-on-Tyne, have been selected in competition for an open-air sanatorium proposed to be erected at Barrasford, Northumberland, by the Northumberland branch of the National Association for the Prevention of Consumption. Building operations will be begun without delay, and when completed the building will accommodate 100 patients in separate rooms, together with isolation hospital, &c.

The Gloucester School Board have adopted the plans prepared by Mr. M. H. Medland, Gloucester, for the proposed new school at West Dean. The school has been designed as a mixed and infants' school to accommodate about 250 children.

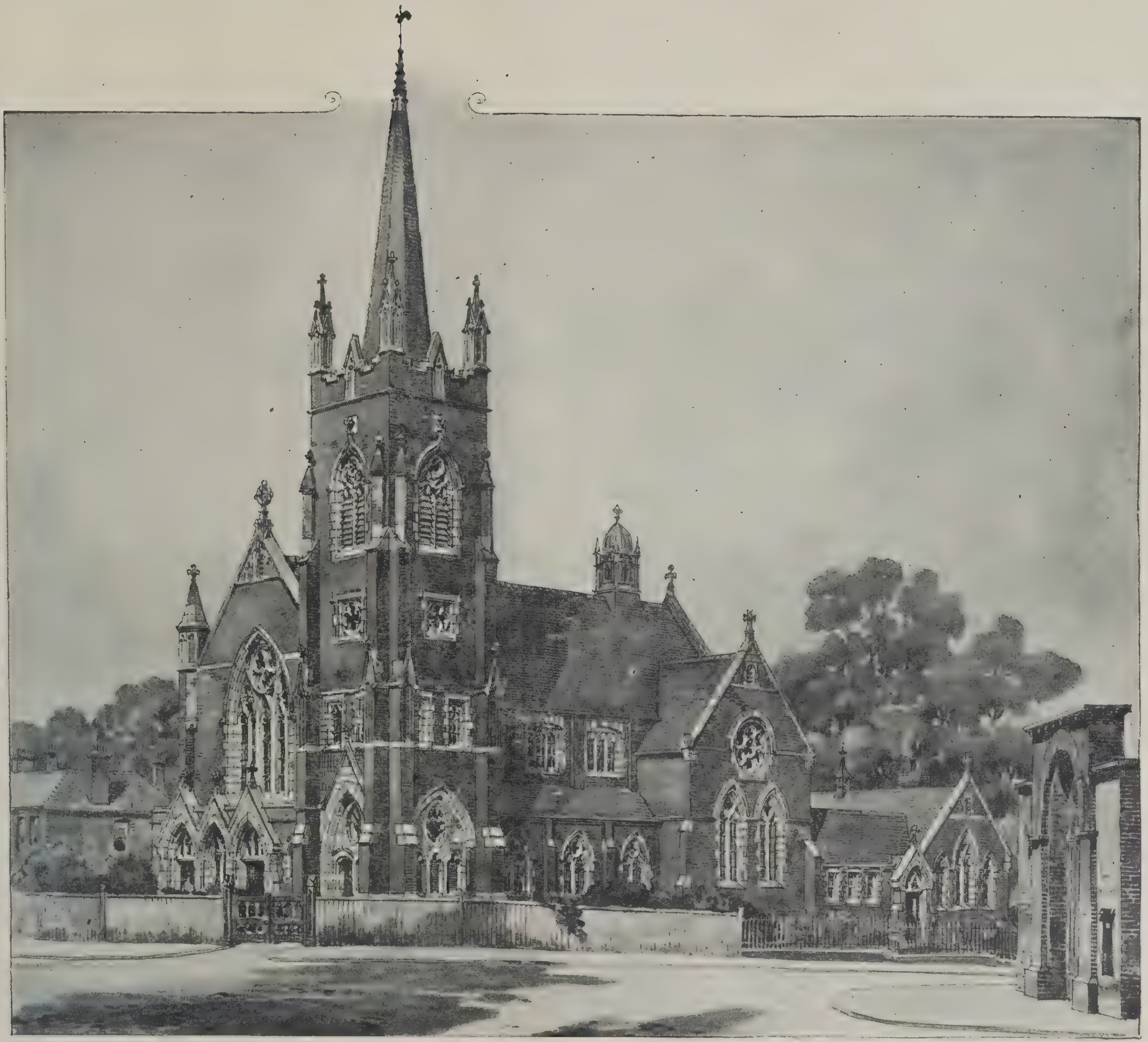
A New Handbook of the history of German art is now in preparation under the direction of Professor Dehio. A sum of 50,000 marks towards the cost has been contributed by the Kaiser.

A Memorial of Rodolphe Virchow, the pathologist, is to be erected in Berlin at the cost of the city. He was not a native of it, but was connected with the hospitals of Berlin from 1843 until 1902, and its sanitary condition is due to his efforts.

The Archdeacon of Sarum, in his recent charge to the clergy at Warminster, strongly protested against allowing the growth of ivy on church walls. Instances were given of buildings which had been wrecked by ivy, where it was too long encouraged on account of its picturesqueness.

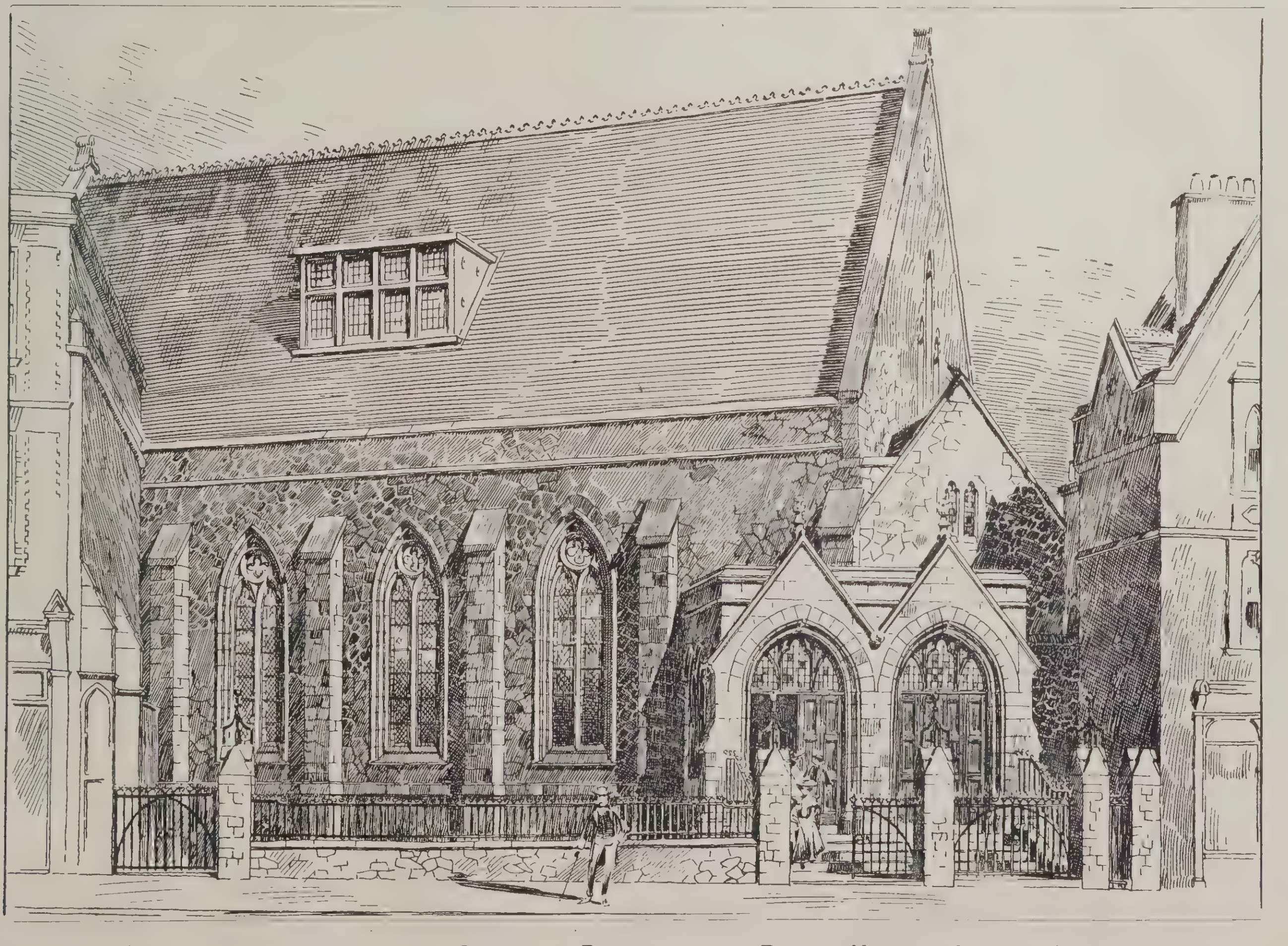
A Proof of *L'Abside de Notre-Dame, Paris,* by Méryon, was sold a few days ago in Paris for 2,100 francs.

The German Engineers' Association have unanimously conferred the Grashof medal, instituted in honour of the founder of the Association, on the two pioneers of steam turbine propulsion, Mr. Parsons, of Newcastle-on-Tyne, and M. de Laval, of Stockholm.



CONGREGATIONAL CHURCH, HERNE HILL.

ALFRED CONDER. F.R.I.B.A., Architect.



WELSH CONGREGATIONAL CHURCH PENTONVILLE ROAD, KING'S CROSS, LONDON.

ALFRED CONDER, F.R.I.B.A., Architect.

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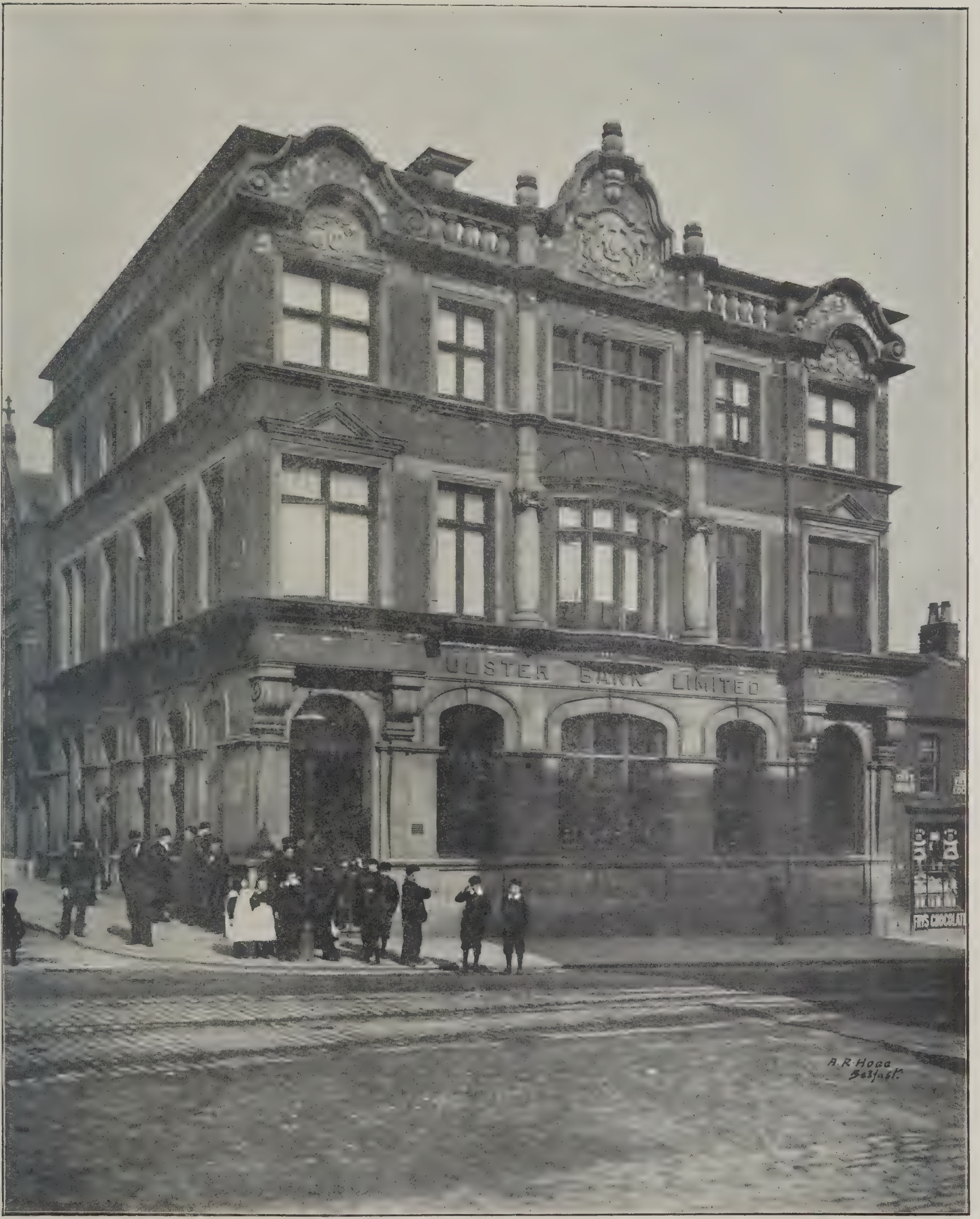

ULSTER BANKING CO.'S BRANCH: SHANKILL ROAD, BELFAST.

Messrs. BLACKWOOD & JURY, Architects.

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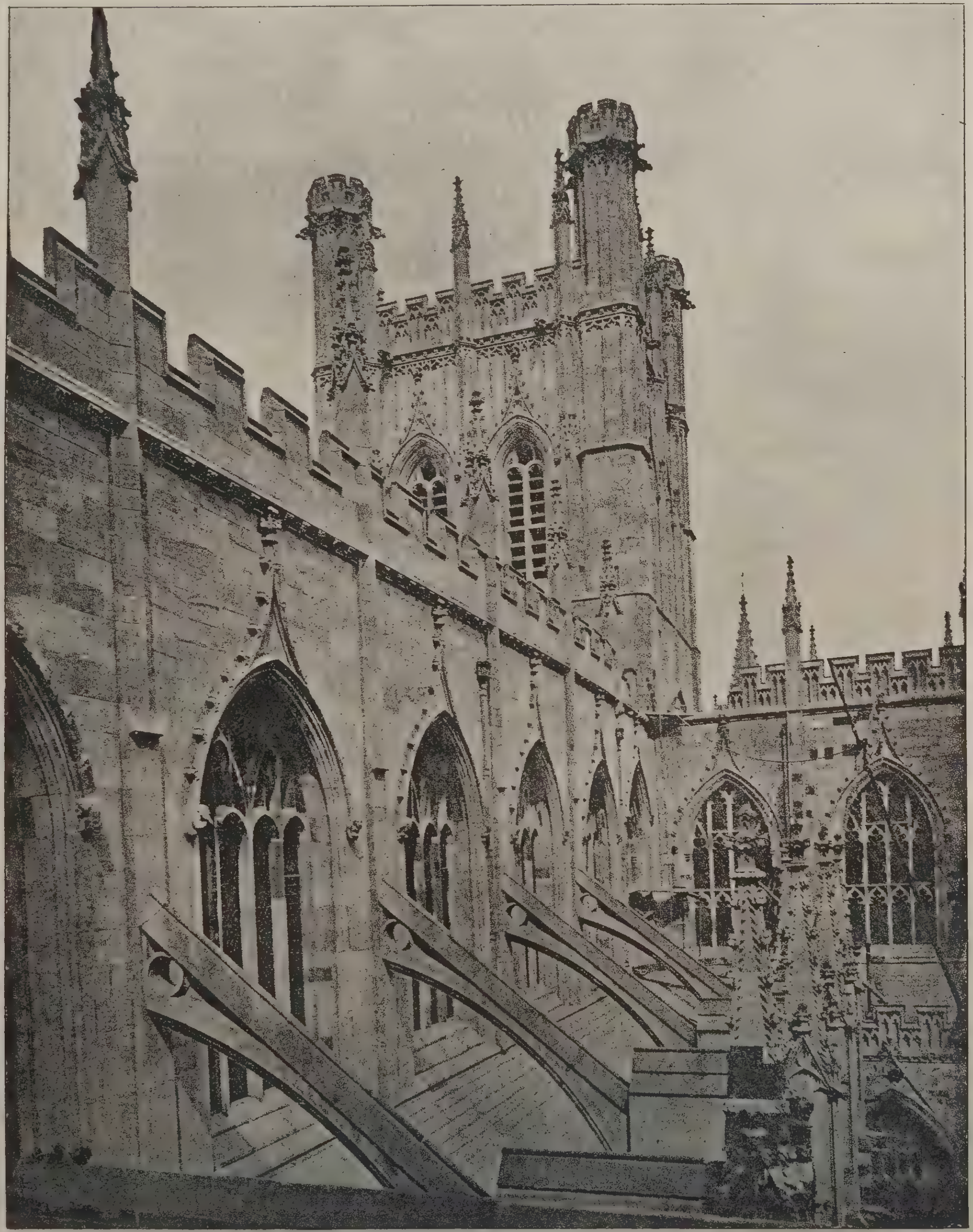
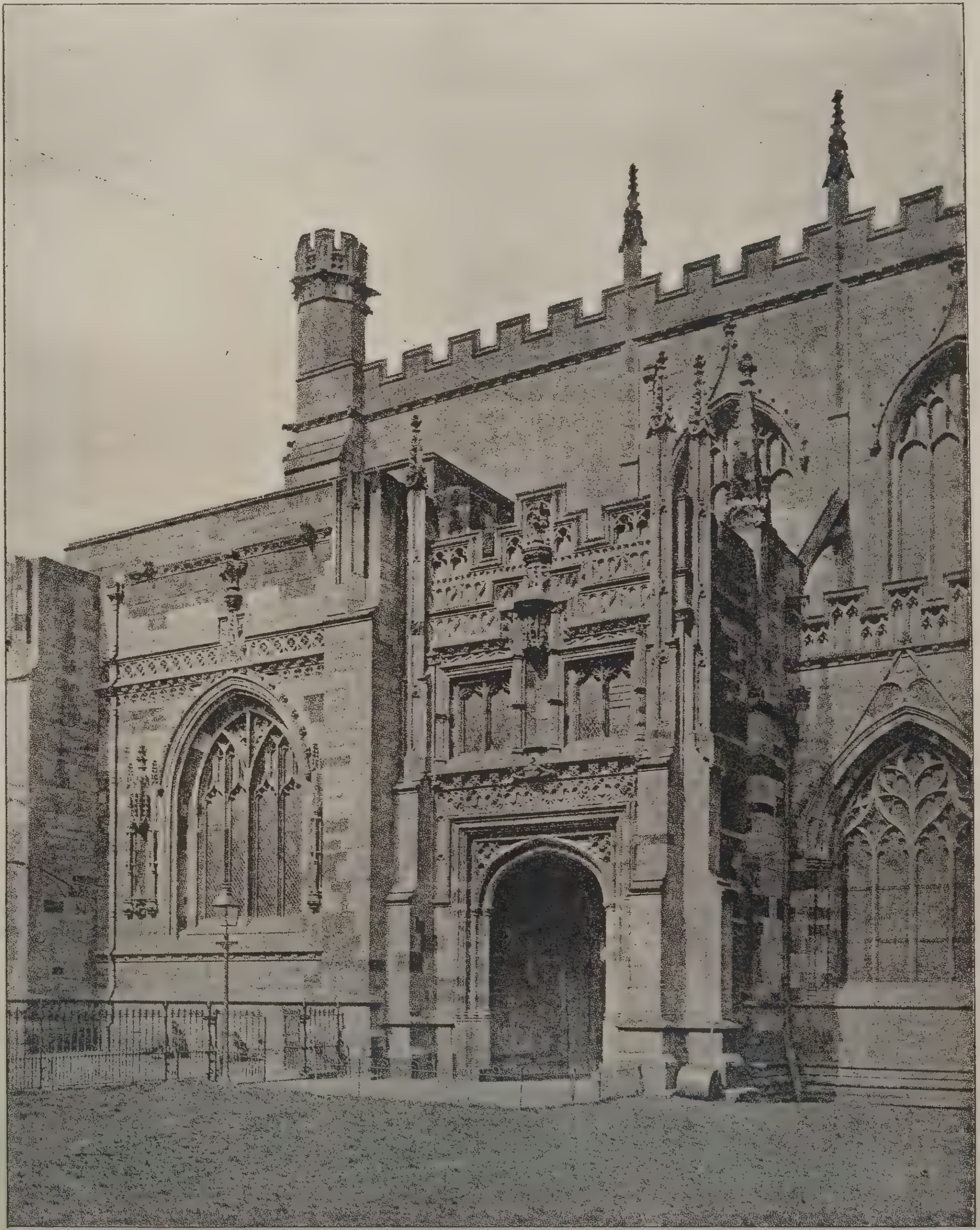
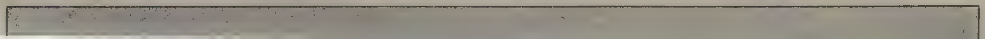
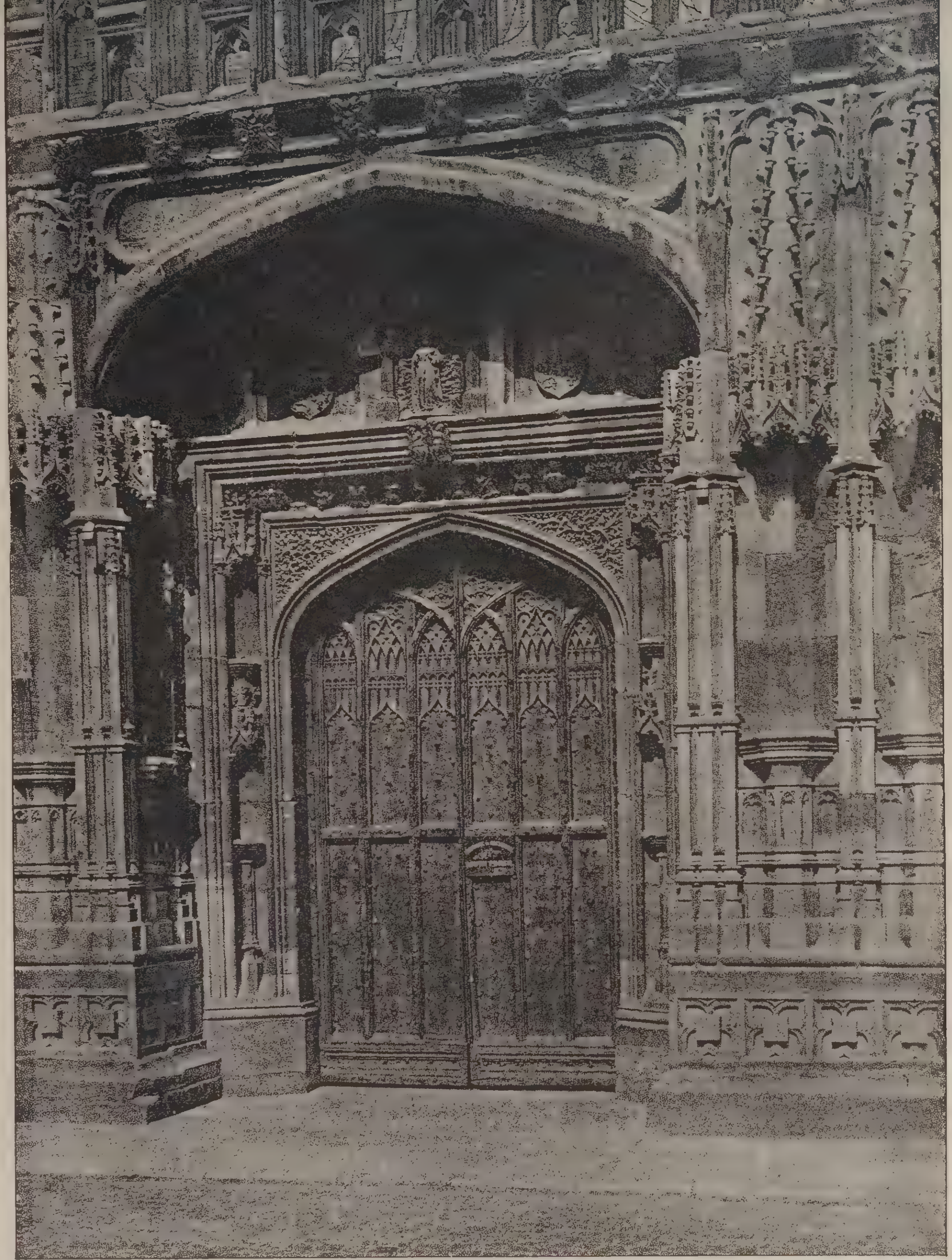


Clerestory of Nave and Flying Buttresses.

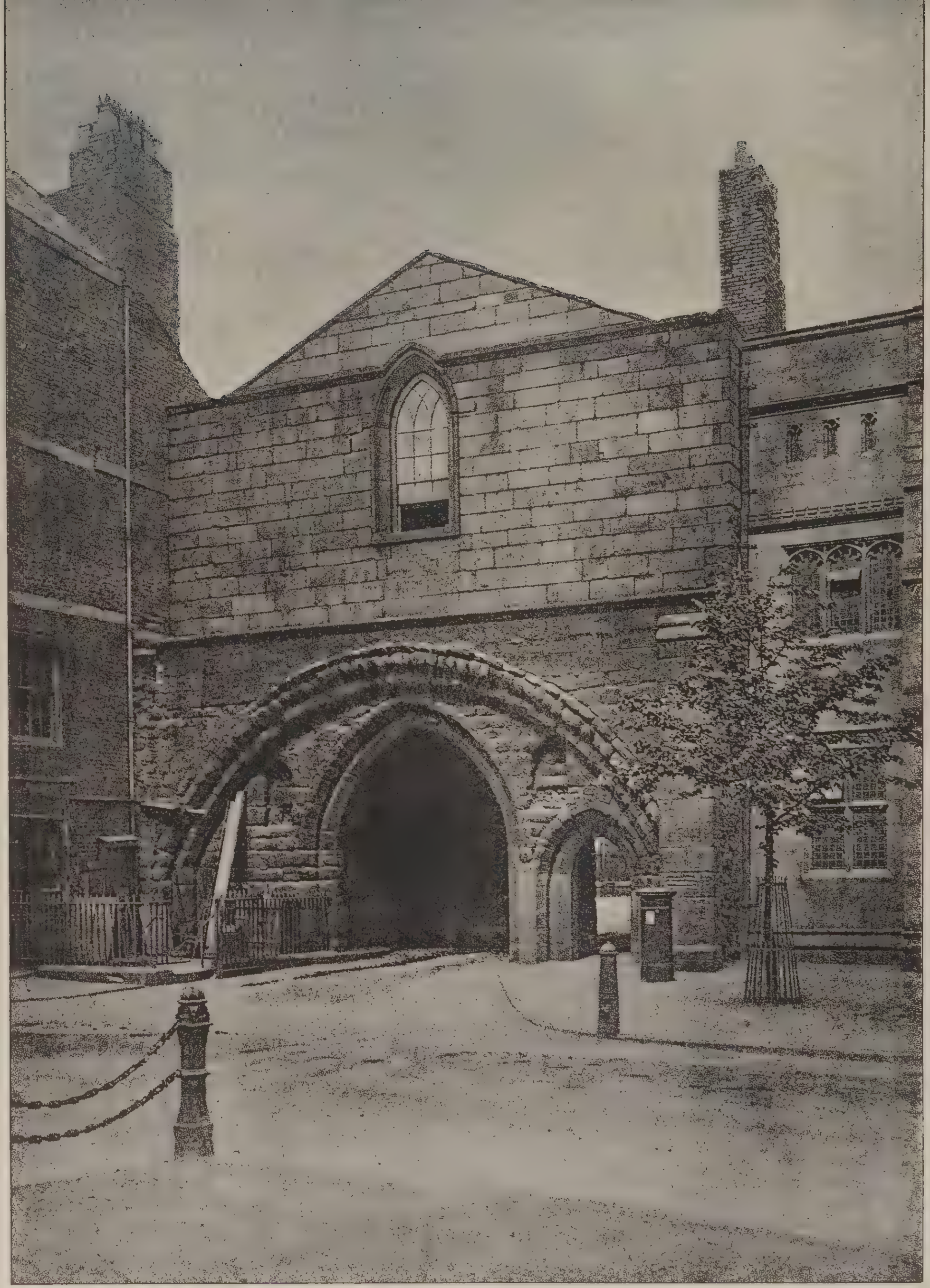


North-West Porch and Base of North-West Tower.





Doorway at West End of Nave.



Abbey Gateway.

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CATHEDRAL SERIES, No. 495.—CHESTER.

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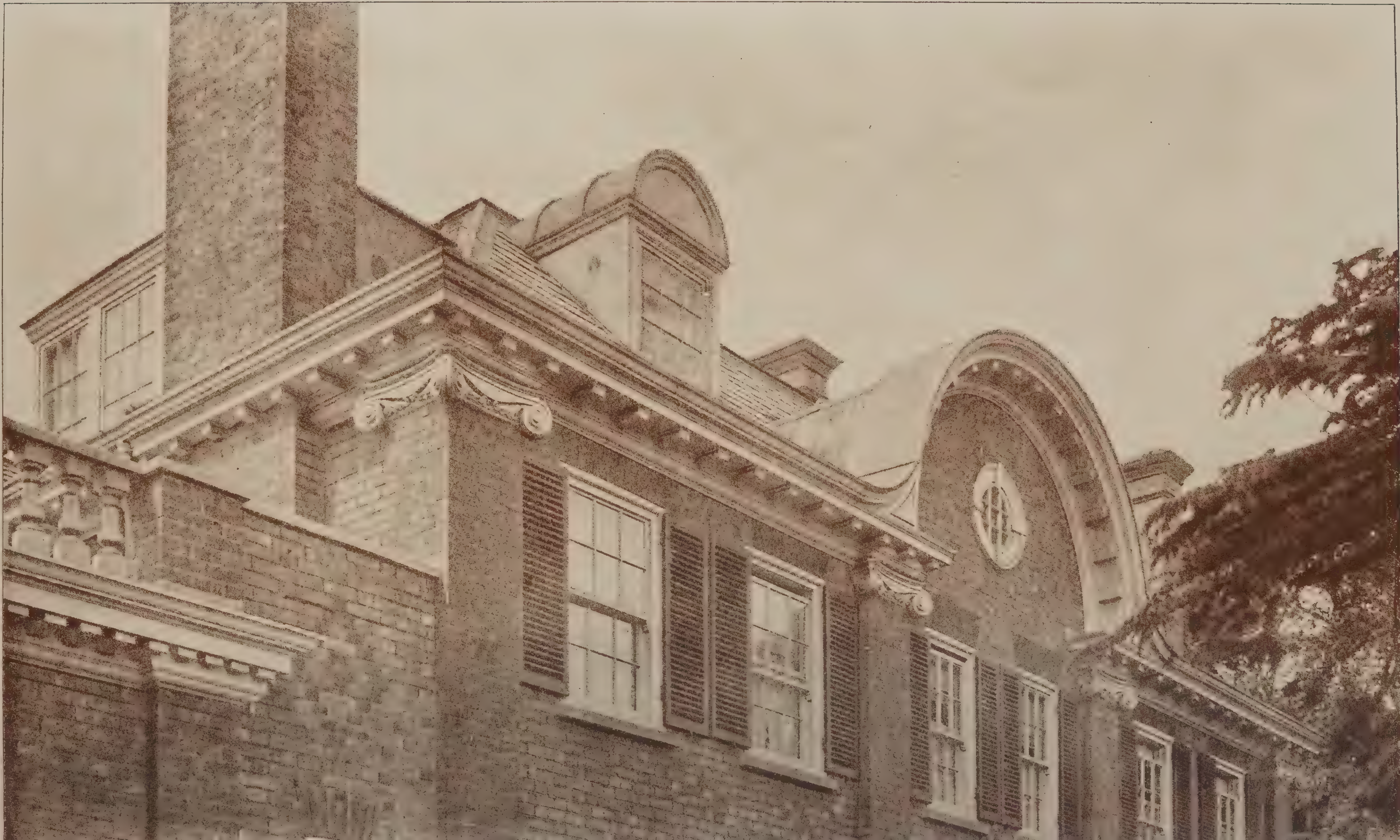

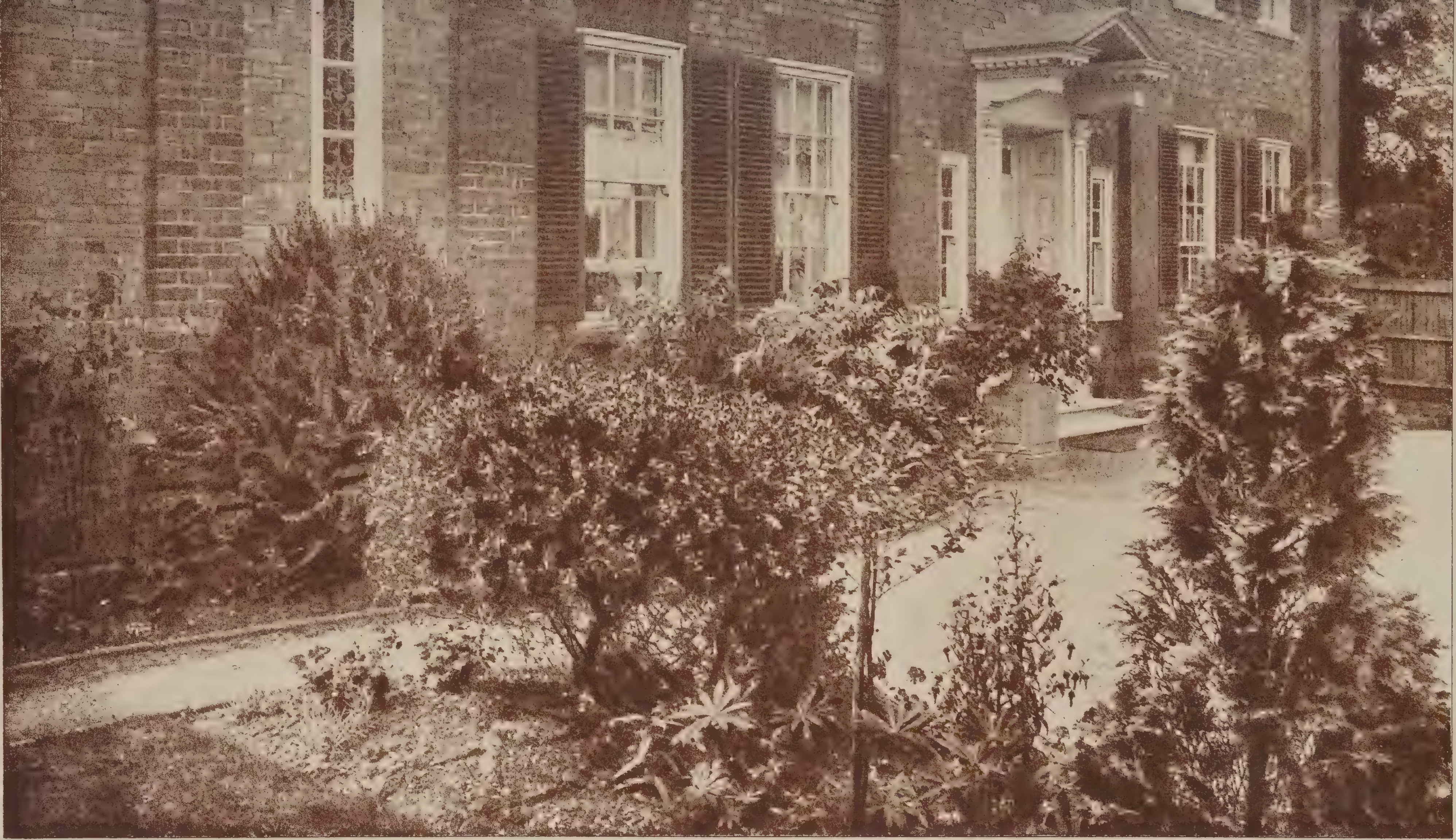

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"GREYSTOCK," WIMBLEDON: FRONT ENTRANCE.

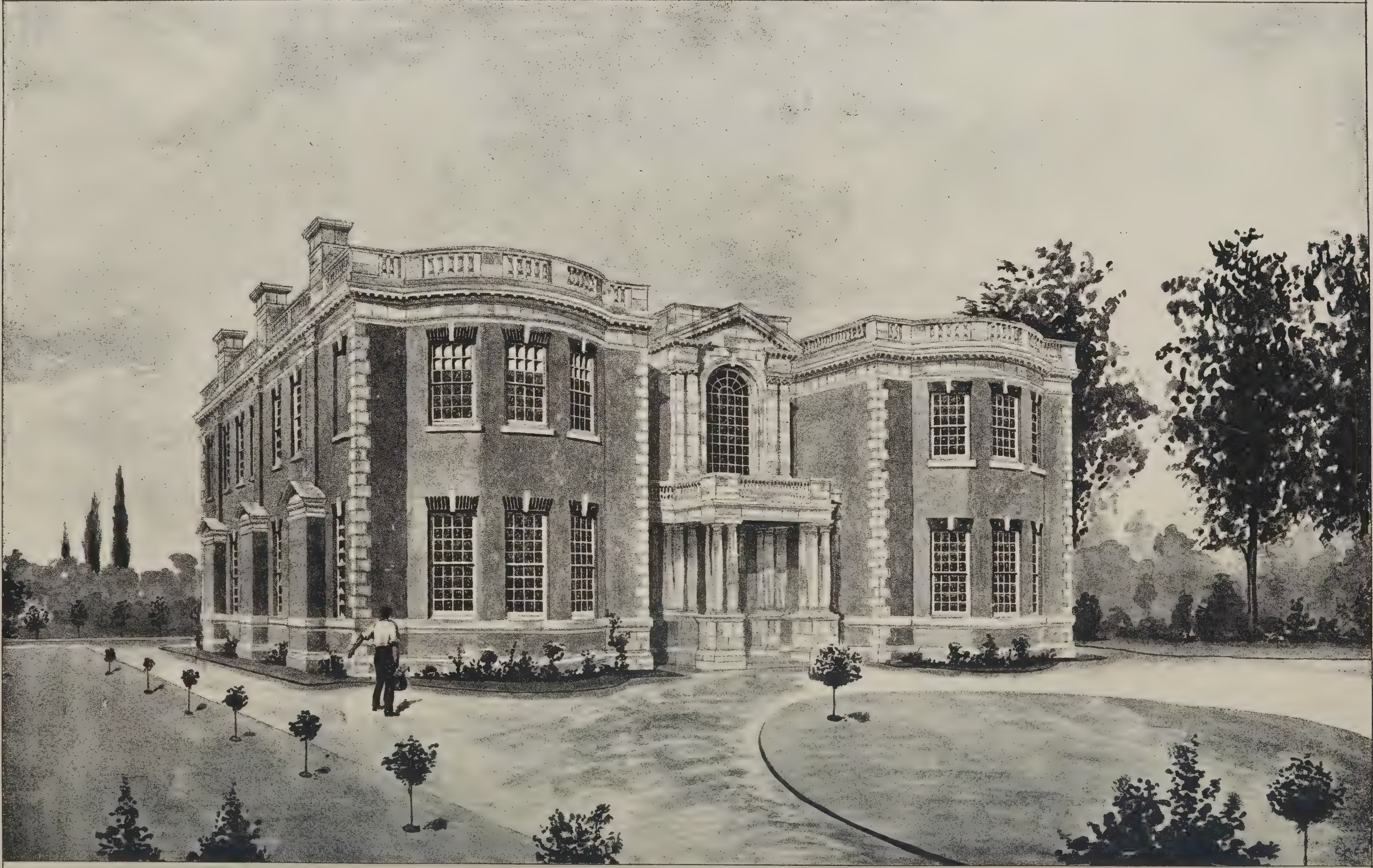
(For F. G. Minter, Esq.)

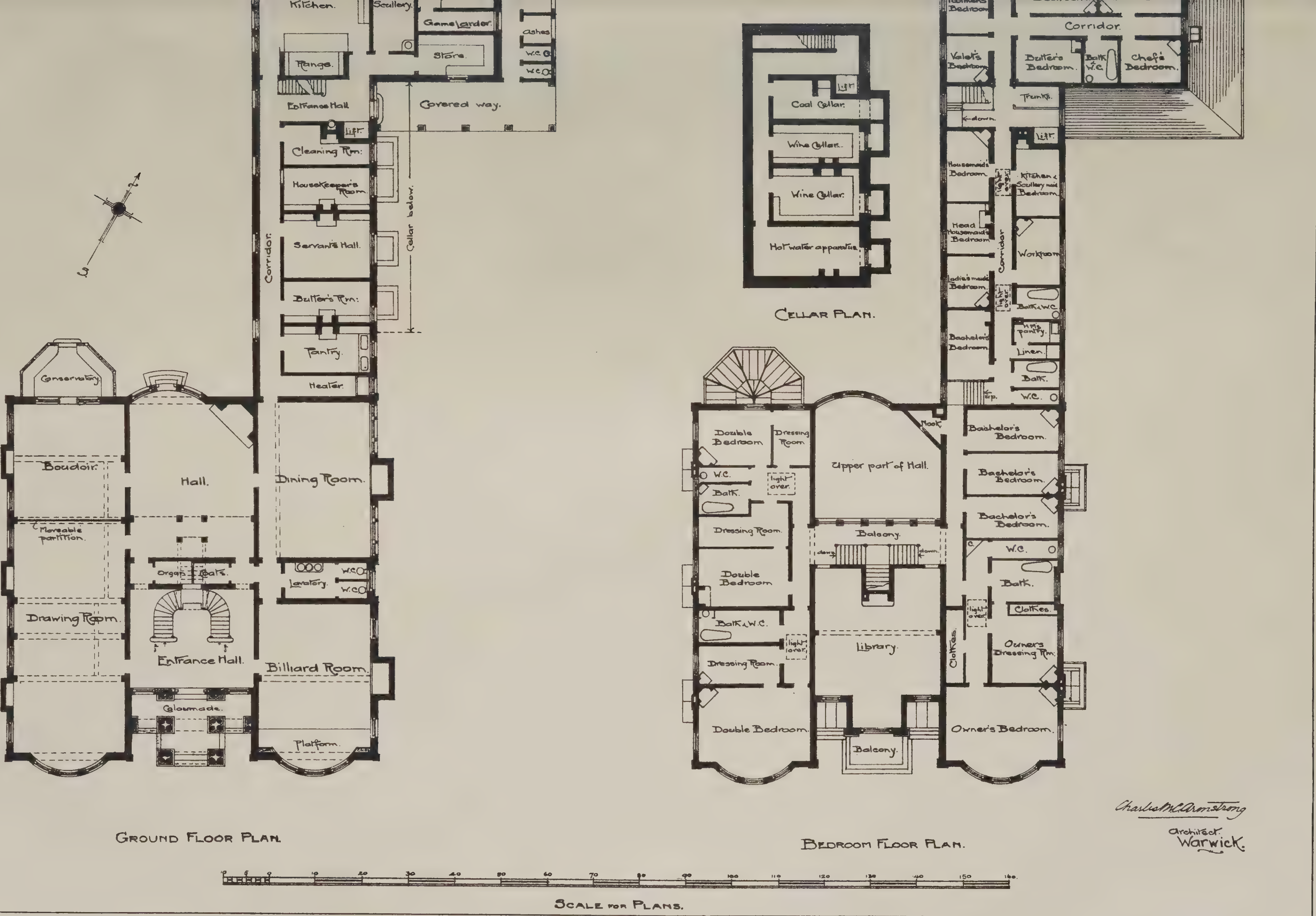
Messrs. HUBBARD & MOORE, Architects.

[illegible]
OF THE
UNIVERSITY of ILLINOIS

The Architect, June 10th 1904.

PROPOSED GEORGIAN MANSION IN WARWICKSHIRE.





Charles M. C. Armstrong
Architect.
Warwick.

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The Architect.

THE WEEK.

There seems to be little use in having an architect unless he is permitted to exercise his authority. When one is appointed he is supposed to inspire, if not to draw out, the conditions of the contract, and he is not likely to introduce any clause which would make his office a nullity. To do so would be professional suicide. When, therefore, it was agreed to by a contractor that "no certificate of the architect shall be considered conclusive evidence as to the sufficiency of any work or materials to which it relates, nor shall it relieve the contractor from his liability to make good all defects as provided by this agreement," it was reasonable to assume there would be some other clause having a modifying effect, for otherwise the architect's certificate would be of small value. An action in which the defence was based on a consideration of the foregoing clause was heard last week before Mr. Justice Farwell. Mr. A. W. Robins, a builder, claimed 1,055*l.* 17*s.* 2*d.* from Mr. Thomas Goddard. A final certificate was given by the architect for that sum, but the defendant, the building owner relied on the clause which stated that the architect's certificate was not to be taken as evidence of the sufficiency of the work. The defendant alleged that the work and materials were not in accordance with the contract, that the prices were excessive, and that he would have to incur additional expense in getting the work redone with suitable materials. The defendant might easily have seen that by the terms of the contract the architect could order the removal of materials in his opinion unsuitable and the substitution of others, and that he could have any part of the work re-executed which he thought unsuitable. It was, moreover, stated that any defects, shrinkage or other faults observable within a year from the completion of the works should be amended and made good by the contractor at his own cost, unless the architect decided that he ought to be paid for the same. In other words, the contractor was tightly bound down and responsible after the work was completed. It was impossible to bring forward any defence to an action on the basis of such a contract. But Mr. Justice Farwell regarded the defence as a counterclaim for damages in which the construction of the contract had to be considered. His Lordship refused to notice the clause about the certificate by itself. Taken in connection with the other clauses the contract became an ordinary one with the architect as referee between the two parties; unless the architect expressed an opinion unfavourable to the contractor, there was nothing for the Court to decide. Therefore there was no case on the counterclaim, and there must be judgment for the plaintiff for the amount claimed, with costs. A stay of execution was granted.

M. Claude Monet is in the happy position of having wealthy amateurs who find delight in his works. They are not confined to his countrymen. In America his pictures are sought after by men who pride themselves on being able to possess them. It is little wonder young American artists intrude upon him in the hope of discovering the secrets which are found to be so precious. He can take up any class of subject and make it popular. At one time his series of haystacks became a revelation to his admirers. It might be supposed they were an invention of the painter. The pictures he has on view in Paris are still more remarkable, for they might be accepted as a demonstration that for mystical colouring there is nothing to equal the foggy and smoky atmosphere which gathers over the Thames. Having been struck by the novelty of the spectacle from a hotel window, M. Claude Monet was not satisfied until he produced several records of it. There are Parisians who will not admit that Paris has anything to show worth looking at beyond a small stretch of the boulevard. The extent of the region which attracted the artist will be evident when we say that of the thirty-nine pictures forming the latest series, in eighteen Waterloo Bridge is introduced, in eight the Charing Cross railway bridge, while in thirteen we have the Houses of Parliament. Never before was there such a glorification of the mist and smoke of London. Evidently the inhabitants of the Metropolis have yet to be taught the value of their peculiar atmosphere. Mr. Whistler endeavoured to impart a lesson to them; but the Impressionist painter, M. Claude Monet, now has demonstrated that the atmospheric as well as the aqueous effects visible in London are almost enough to occupy the whole attention of a painter.

The Local Government Board are displaying much confidence in the endurance of buildings when in some cases they allow the repayment of loans to extend to eighty years. It is hardly right for a Government department to do more than would be expected from an ordinary individual or a financial company in lending money on the security of buildings. There is no question that working-class houses are subjected to more than the customary wear and tear, and they have to be erected at the lowest market rates of materials and labour. If the Board were authorised to become philanthropic, and the providing of dwellings was to be considered as a work of charity, there could be little objection to advancing money on extraordinary conditions, and to granting an unusual period for the repayment. The statement of Mr. Long in the House of Commons on Tuesday shows that the Local Government Board are careful in selecting the cases where the sixty-years limit can be extended. Applications were received from twenty-two local authorities for liberty to repay loans in eighty years. In eleven cases permission was granted so far as regarded the purchase of land for sites, for that is an asset which generally is unaffected by time, unless advantageously. But only in one instance was the limit extended for land and buildings.

A great many of the Italians who are to be seen in London may not be regarded as worthy representatives of their country. According to the British Commercial Attaché, emigration appears to bring unusual advantages to Italy. The majority of the men expect to be able to return, and they regularly remit savings to some local savings bank which will one day be invested in land. The deposits are a financial benefit to Italy. More land is every year brought into cultivation, and whenever the people come back the experience they have acquired in foreign countries becomes beneficial to Italy. It is pointed out that fewer foreign patents are sold in Italy than in other great countries. The Italian seems to possess in a marked degree a faculty for overcoming technical difficulties, and for improving and perfecting recognised processes. This ingenuity is shown not merely by managers and foremen, but also by ordinary workmen, with the result that both cost and quality of production are favourably affected. This fact, combined with the existing cheapness of labour and a continuation of financial prosperity, should eventually make Italy a great industrial country.

Bibliography has its legends, and among them are some which relate to the discovery of missing pages in unexpected places. Every great library in Europe could afford evidence on the subject. The latest instance is afforded by the French Bibliothèque Nationale. About sixty years ago a leaf was abstracted from an illuminated manuscript entitled "The Chronicles of Normandy," which was the work of some artist of the reign of Charles VII., who lived in the first half of the fifteenth century. It was produced for the library of the "échevins" of Rouen. Two centuries afterwards it was in the possession of Colbert, and in 1732 it found its way to the Bibliothèque du Roi. On the page which was stolen was represented the delivery of the keys of Rouen to Philip Augustus, and around the margins were painted the arms of France, Normandy, Rouen, &c. The leaf was so excellent in style, it was exhibited as an independent work among those of the French "Primitifs," or early painters. It was identified, but could not be considered as public property. The Baron Alphonse de Rothschild, however, by the payment of a large sum was able to acquire it, and with the munificence with which Frenchmen are familiar has presented it to the authorities of the Bibliothèque Nationale.

COURAGE IN CONSTRUCTION.

It is an old remark that virtue originally meant virility, and when Macbeth declared, "I dare do all that may become a man," he was setting up a high standard. The virtuous Roman citizen was brave, and it will be found that whatever is good cannot be accomplished without the exercise of the quality. Whether in the city or in the field there arose continual demands upon his courage. Indeed, we might say that little which may be considered meritorious is achieved by the coward, for his own apprehensions concerning the difficulties of what he proposes to undertake are enough to confound him and make him leave it in an unfinished condition.

The history of the arts abounds in examples showing an indomitable will which no obstacles could discourage. In saying this the art of building is not excluded. But the courage is exhibited in a more peculiar way. A defective picture or statue, like a defective literary work, can only bring failure to whoever produced it. We may think he was too ambitious, or did not possess sufficient power, or was ignorant of the rules of art. But no accident to life or limb will occur in consequence. Modern frescoes in Germany, as well as in England, have faded, or the plaster surface may have fallen from the walls. Nevertheless, although there was a waste of money and a loss of time and labour, it cannot be said that any spectator received a scratch. Occasionally carved work, or it may be a statue, has fallen from a height. But unwrought stones under similar conditions would have succumbed. The weakness did not arise from any artistic process. In building, on the contrary, it is impossible to have defects in any part without bringing risks to the inmates, or, in event of collapse, to people passing by. Instinct therefore prescribed to early builders proportions which would be guarantees against accidents. We may now think it oppressive that Metropolitan Building Acts and by-laws should be so peremptory about the thickness of walls and matters much less important. But the oldest remains reveal to us a waste of materials to an incredible extent in order to attain security. The maxim, "A little stronger than strong enough" was always recognised, only the "little" or the margin beyond what was essential was on a colossal scale.

What a waste of materials is displayed in all the pyramidal structures of Egypt! They have beyond doubt served the designers' purposes, and have resisted time and all atmospheric influences, but how enormous was the cost! Bonaparte is supposed to have told his soldiers that forty centuries looked down upon them; but if a similar harangue were made to a company of contractors they would probably have passed sarcastic remarks about the excess of materials considered necessary for so excellent a purpose. The mighty columns seen in the temples appear to be symbolical of extravagance, for as they are fashioned in the form of reeds they become, as it were, a mockery of nature. If we imagine a Japanese temple with columns, in which the bamboo was treated in Egyptian fashion, we can realise the extent of the departure from the models. We meet with a similar employment of materials and labour and contempt for economy in the views from Chan-Chan, in South America, which we published last week. One of them is a mound 800 feet in length and 150 feet high, and all that can be remarked of it is that "it has marvellously defied time and vandalism." What use it served is unknown, and it seems mockery to state "it remains to-day a veritable enchanting riddle to the archæologist." There may have been courageous builders in Chan Chan and in Egypt; yet what could they do against a state of things which apparently made it imperative that a mountain should be used as a substitute, so to speak, for an ant-hill?

The tradition of largeness and unnecessary bulk was not easily set aside. From such remains as have come down to us it is quite plain that early Doric, and all the parts in connection with it, were clumsy. The clumsiness is more extraordinary when we know that the Greeks were disposed towards lightness in most things. The columns somehow recall the words which Shakespeare makes Ulysses address to Nestor:—"The elephant hath joints, but none for courtesy; his legs are for necessity, not flexure." An English borough surveyor would not hesitate to recommend similar dimensions for a modern building. Experience proved that much more attenuated columns would do as well, and architectural progress in Greece signified more correspondence between load and support until, as James Thomson, the poet, said, architecture became—

> so measured, so lessen'd off
> By fine proportion, that the marble piles,
> Form'd to repel the still or stormy waste
> Of rolling ages, light as fabrics look
> That from the wand aerial rise.

In other words, courage and science gained a victory over empiricism and precedents.

It would be strange if with the Romans courage was not exhibited in their building works. Wherever they derived the arch, whether from the East, or their neighbours the Etruscans, there is no doubt they applied the principle to an extent that many must have supposed to be hazardous. But with all their daring they were at times exceedingly conservative. They knew the value of mere mass, yet instead of wasting good materials on it they substituted concrete. That enabled builders to employ slaves, and if occasionally some captives were cast into the heap there was no regretting them—life was cheap in old Rome. In the opinion of Viollet-le-Duc the whole principle of Roman construction consists in establishing points of support which will resist the weight and thrusts of the vaults; or, in other words, to have stable piers of which the inert resistance would be sufficient for the duty they had to serve. In his eyes Roman construction was merely a concrete mass in which gravity and adherence held all the parts which were devoid of elasticity. That, perhaps, is a rather exaggerated conclusion, with the object of suggesting the superiority of the Mediæval vault-builders. It cannot be denied that the Romans were sufficiently acquainted with the powers of the arch, and dared sometimes to employ it independently of colossal abutments. In their day the Roman aqueducts were remarkable structures, and by making arches spring from columns they performed feats which seemed to be against ancient authority. The arch, according to the Easterns, never sleeps; but in such a building as the Pantheon that axiom was set aside, for it was expected that a dome, which may be regarded as a multiplicity of arches, would be content with reposing on the piers. When covered with plates of bronze it must have seemed of increased weight, and to some of the worshippers in the temple the continuance of the dome in its position was nothing short of a miracle.

The Pantheon is a simple structure compared to the Coliseum. If the designers had studied the stores of the honey-bees they could hardly have adopted a more economical arrangement of voids and solids. The counterforts which have had to be introduced in places where some of the tiers of arches were removed, indicate how much depended on the arches doing their work "contrariously." It was only when the ellipse was complete that stability was insured. If in modern times a designer were restricted to the same materials as the builders of the amphitheatre it would hardly be possible to devise a more efficient arrangement.

Courage in men means more than an animal instinct or impulse. There is recognition of cause and effect, and in addition, of the price to be paid for success. The builders in the age following the downfall of the Roman Empire had the Roman works to study. There is no doubt materials in a completed form were taken from the old buildings and occasionally rearranged. But the spirit for experiments was wanting. When we read how men were in subjection through a great part of Europe, and the fear which prevailed of impending destruction, we need scarcely wonder if courageous construction was absent. Not until about the eleventh century do we observe signs of that courage in dealing with stone which was afterwards manifested in a large number of remarkable buildings. There was at first imitation of the Roman system. The eye had to be pleased and economy respected. In consequence we find in walls and piers an outer casing of perfect ashlar enclosing a filling of what seems like chipped stones that are not always united by means of mortar. The old tradition of massiveness as an essential characteristic of building was next set aside. In certain districts of France, under the influence of conditions of which we have little knowledge, but among which a spiritual pessimism was likely to be potent, we see gloomy buildings which owe much of their effect to the solidness of the materials. Mediæval architecture if regarded as a whole can be considered as a competition between daring designers. The apparent size of stones was reduced by the application of mouldings, and the work which had to be done in a constructive sense was by means of ornamentation, treated as if it were trivial. Columns were crowned by floriated capitals; groining became a playful thing when the lines were found converging to sculptured bosses; arches sometimes sprang from the heads of saints, and, in fact, the principle exhibited by the Greeks when introducing female figures to support weights in the Erechtheum was developed in a way which to the ancients would have suggested the efforts of fauns to imitate architectural works. What might be considered as deception was employed, for when the inert mass of the Romans was represented by flying buttresses outside a building science was developed to an extent which at one time would have appeared incredible. Indeed, Renan wrote an essay to explain the close correspondence existing between the fanciful efforts of the Gothic architects and the strange speculations of the monastic philosophers. The latter formed a linked series which had little or no connection with life, while the designers of buildings, who may have belonged to the same monastery as the philosophers or have shared in both kinds of exercises, allowed their rulers and compasses to make endless intricate combinations which the masons were expected to realise. In fact, as Viollet-le-Duc says, it seemed impossible for the designers to go further unless metal was substituted for stone. After ages may condemn so wide a departure from primitive rules or such disregard of the nature of the materials employed, but we must acknowledge how strong was the courage inspiring the efforts.

What increases our admiration of the daring of the Mediæval builders is our difficulty in believing that they had a science of construction. For a modern structure we possess processes and formulæ which can be employed, and often with great accuracy, to ascertain the strains which each member will have to sustain, and then we can proportion the material to the service required. Instances like the Tay Bridge, where there was inadequate allowance for contingencies, are rare. It is also possible by means of experiments to verify the calculations. But we are without a convincing record that the Mediæval builders adopted a similar procedure. The curious proceedings in connection with Brunelleschi's project for the erection of a dome of the cathedral of Florence in the first quarter of the fifteenth century suggests that many of the earlier efforts owed their origin to what may be termed "happy thoughts." His challenging his judges, the masters of the Building Guild, to demonstrate how they could make an egg stand upright on its smaller end is evidence of the simplicity of the investigation preceding important works. Brunelleschi, in spite of all the opposition, never lost heart, and eventually he succeeded. Wherever it was he obtained inspiration for the dome, he never sought to rival that great work. In both his civil and his military structures he always professed to have followed the examples of the ancients.

Science being in modern times at the service of designers, it seems only fitting that metal should be the material which is to give a new character to architecture. Rightly or wrongly, from the date of its introduction its use has been extending, yet in the majority of cases its service is concealed, whether employed as an arch, a column, or a beam. It is only in buildings where there is no necessity to gratify the eye that the aid given by steel or iron becomes manifest. Cast-iron was utilised in bridges towards the end of the eighteenth century, but so far as is known the first occasion when cast-iron columns and beams were used in a building was in 1801. They were produced by Boulton and Watt. It was certainly a courageous experiment, although the spans were only 14 feet, for if they had collapsed the reputation of James Watt must have suffered and the introduction of the material would be retarded.

Cast-iron was found to have defects. A great many efforts were made to improve its quality, and for that purpose several elaborate experiments had to be undertaken. It was also proposed to compensate for the tensile weakness of beams by introducing truss-rods of wrought-iron. Courage in modern times is unlike that of Brunelleschi. Conclusions must be worked out in a systematic way. The use of truss-rods suggested the advantages of wrought-iron, and further experiments led to the introduction of a wrought-iron beam. It is remarkable that the box beam, which bore some analogy to a timber girder, was preferred at first to the ordinary I beam. The rolled-iron beam, which until supplanted by a similar steel beam was in universal use, was merely considered by Fairbairn as a probability which might arise as one of the results of improved manufacture.

The history of iron and steel construction is indicative of the new era in construction as well as of the kind of courage which is now called for. It does not appear to be likely that with stone we can surpass the Mediævalists. No feat of daring has been accomplished either by modern architects or by engineers which can be considered as surpassing those exhibited in the old cathedrals and churches. A man is not therefore called upon to have his courage tried with an experiment of that kind. Much has been made, for instance, about the manner in which the courses of the new Eddystone lighthouse have been joined together. Yet the system adopted is merely a modification of Smeaton's. The same may be said of most other efforts after novelty in masonry. The case is different with metalwork. It can be applied under new conditions, such as tube railways, hydraulic canal lifts, bridges of immense span, &c. But in all those cases experiments may be made, and the results are determined before the works are commenced. Fairbairn was able to say that he unhesitatingly recommended the adoption of wrought-iron to the architect and engineer owing to the confidence he derived from his investigations and experiments. Fairbairn would have allowed a practitioner to be present, and the inventors of all the new materials recently come into use are anxious to satisfy architects and engineers about the value of their inventions and productions. The anxiety inevitable in former times is no longer necessary. The use of a new material is not now attended with risk, for before adopting it experiments can be made on a scale which is sufficient to convince the most sceptical. In that is one of the advantages of the modern system of trading, for sub-contractors become the pioneers who encounter the difficulties which at one time had to be faced by architects alone.

THE LEGAL ASPECTS OF THE TRADES UNIONS AND TRADE DISPUTES BILL, 1904.

By Professor W. S. Holdsworth, D.C.L.,
Barrister-at Law.

THIS Bill, presented by Sir Charles Dilke and supported by Mr. Keir Hardie, now before Parliament, describes itself as a Bill "to legalise the peaceful conduct of trade disputes and to alter the law affecting the liability of trade union funds." The object and intended effect of the four operative sections of the Bill are hardly intelligible except to those who have followed the recent decisions of the Courts in cases which have arisen out of the action of trades unions. The legalisation by Parliament of trades unions in 1871, and the passing of the Conspiracy and Protection of Property Act of 1875 with the object of rendering criminal certain acts done in furthering trade disputes, have given rise to many decisions as to the civil and criminal liability to which certain actions of trades unions may expose the unions themselves or their members. In fact, it would not be going too far to say that we may find in the Acts of Parliament and in the decided cases upon this subject, if not a new branch of the common law, certainly new applications of the principles of the common law. And, as often happens, the necessity of applying those principles in some detail to new facts has brought out the full significance of the principles themselves. This Bill, then, like many Acts of Parliament already on the Statute Book, is brought forward in order to change the law as it has been laid down in certain decisions of the Courts. We shall state each of its sections and estimate the effect which each section may be expected to have upon the existing law.

The first section deals with the civil liability of the members of trades unions for acts interfering with a business or with existing contractual relations. It enacts that "where an act is done in contemplation or furtherance of a trade dispute, the person doing the act shall not be liable to an action on the ground that by that act he interfered, or intended to interfere, either with the exercise by another person of his right to carry on his business, or with the establishment or continuance of contractual relations between other persons: provided that nothing in this section shall exempt such person from liability on any other ground."

In the first place, we may remark that the Bill contains no definition of the term "trade dispute," nor is the meaning of the term "act done in contemplation or furtherance of a trade dispute" quite obvious. Does it mean any act which actually gives rise to a "trade dispute," or an act which may reasonably be expected to give rise to such a dispute, or an act which the party doing the act thinks may give rise to such a dispute? The same terms are used in the first section of the Conspiracy and Protection of Property Act, 1875, in relation to criminal liability for conspiracy. But they have not as yet been defined,[*] and they may well be more difficult of definition when they come to be applied to civil actions. Clearly there is much scope for litigation in these vague terms. To understand the rest of the section it is necessary to state shortly the effect of the cases which have defined the extent to which interference with modes of business, and with the existence and establishment of contractual relations, may be carried. These cases at bottom turn upon a difficulty which the trades unions have always experienced—the difficulty of making a strike effectual when a supply of non-union labour can be obtained. This difficulty cannot be described more clearly than Lord Lindley has done in the case of Lyons & Sons *v.* Wilkins:—[†]

"Of course one sees the difficulty in which all these trade unions find themselves. Strikes and trade unions which were formerly considered illegal have now been legalised . . . and a strike can be conducted up to a point with perfect legality. That is to say, persons can not only decline individually to work for a master except upon terms which the workmen desire to obtain, but they can combine to do that. They can combine to leave him; they can strike unless he will raise the wages up to what they desire, and trade unions which assist them in withdrawing their own labour and declining to work, and which assist them in supporting themselves during the strike, can legally do so. Then arises a difficulty, which is as well known to those who conduct trade unions as it is to the masters and to all persons who have experience in these disputes, and it may be put thus:—'If that is all we can do we may be defeated by the masters making arrangements with other people who may be willing to work for them, either by taking the work home, or by working for less wages than we think is right, and unless we can stop that our strike may be ineffective.' Then comes the struggle. . . . Some strikes are perfectly effective by virtue of the mere strike, and other strikes are not effective unless the next step can be taken and unless other people can be prevented from taking the place of the strikers. That is the pinch of the case in trade disputes."

Under the existing law a trade union cannot prevent a man from working upon such terms as he chooses. In fact, the existing law carries out the ideas of the Royal Commission on Trade Unions, which reported in 1869:—"We think," runs the report, "that whilst conceding to such workmen as desire to exercise it an extended right to combine against their employers, especial care should be taken that an equal right be secured to those workmen, who desire to keep aloof from the combination, to dispose of their labour with perfect freedom as they severally think fit. . . . The workmen who think it for their advantage to combine together in the disposal of their labour are no more justified in constraining any other workman who does not desire such association to combine with them—to bring his labour into common stock, as it were, with theirs—than an association of capitalists in constraining an individual capitalist to bring his capital into common stock with theirs; and it is the more important that the law should protect the non-unionist workman in his right to freely dispose of his labour as he thinks fit, because standing alone he is the less able to protect himself." The law as it has been laid down by recent cases may be thus summarised:—

1. Peaceable persuasion, unaccompanied by threats or other unlawful action not to enter into contracts with a certain person, is perfectly lawful (Allen *v.* Flood).[*] A man has a perfect right, whatever be his motives, to try to persuade another either to contract or not to contract with another. As Lord Herschell put it in Allen *v.* Flood,[†] "A landowner persuades another to sell him a piece of land for which a neighbour is negotiating. It is so situated that it will improve the value of the property of whichever of them obtains it. His motive is to benefit himself at his neighbour's expense; he induces the owner of the land not to contract with his neighbour. Would it be possible to contend that an action lay in such a case?" In thus exercising his powers of persuasion a man is only exercising his own rights.

2. It has been laid down in a long line of cases that persuasion to interfere with existing contractual rights—persuasion, that is, to break an existing contract—is always actionable unless there is some lawful justification or excuse.[‡] We may take as an instance of the operation of this rule a case decided last year, Glamorgan Coal Co. *v.* South Wales Miners' Federation.[§] In that case miners employed upon collieries in South Wales abstained from working on certain days called "stop days," in breach of their contract with their employers. In so doing they acted under the orders of the Miners' Federation. The Court of Appeal held that an action lay against the Federation and its officials. The question what will amount to such a lawful justification or excuse as will justify persuasion to interfere with existing contractual rights is a difficult one. It is not difficult to put cases in which such a justification would clearly exist. For instance, if a father had discovered that his child had entered into an engagement to marry a person of immoral character he would clearly be justified in persuading the child to break his or her contract. It is hardly possible, however, to give an exhaustive definition of all the cases where such justification exists. Much must be left to the good sense of the tribunal; and in coming to a conclusion "regard might be had to the nature of the contract broken, the position of the parties to the contract, the grounds for the breach, the means employed to procure the breach, the relation of the person procuring the breach to the person who breaks the contract, and also to the object of the person in procuring the breach."[||] But the mere fact that the person procuring the breach had no personal animus against the person injured by the breach; the mere fact that it is to the joint interest of the person who procures the breach and of the person breaking the contract that a breach should occur, is no sufficient justification or excuse. There must exist not merely an interest; there must exist also something akin to a duty to give the advice by virtue of the relationship existing between the party who advised the breach and the person who broke the contract.

3. If persuasion either not to contract or to break an existing contract goes beyond mere persuasion, if there are elements of terrorism and coercion, an action will in all cases lie against the person who has employed such means to prevent the establishment or continuance of contractual relations. The right of action in such a case is grounded rather upon the means employed than upon the result designed. This proposition is illustrated by the case of Quinn *v.* Leathem.[¶] In that case an action was brought against the appellant Quinn and four other defendants, all of whom were officials of the Belfast Journeymen Butchers and Assistants' Association. The plaintiff Leathem was a flesher who employed non-union men. For the last twenty years Munce, a butcher, had bought of Leathem about 30*l.* of meat weekly. The defendants threatened to call out Munce's men if he continued to buy his meat from Leathem. In consequence Munce ceased to deal with him. The House of Lords held that Leathem had a good cause of action. "The

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[*] See remarks of Lord Lindley in Quinn *v.* Leathem, L.R. 1901, A.C. at pp. 541, 542.

[†] L.R. 1896, 1 Ch. at pp. 822, 823.

[*] L.R. 1898, A.C. 1.

[†] *Ibid.* at p. 127.

[‡] The series began with Lumley *v.* Gye, 2 E. & B. 216.

[§] L.R. 1903, 2 K.B. 545.

[||] *Ibid.* at p. 574, per Romer, L.J.

[¶] *Ibid.* 1901, A.C. 495.

defendants," said Lord Lindley,[*] "were doing a great deal more than exercising their own rights; they were dictating to the plaintiff and his customers and servants what they were to do." To have denied a right of action in such a case would, in the opinion of the same learned Judge, be to "hold that boycotting by trades unions in one of its most objectionable forms is lawful."[†] The practical effect of this decision was well summarised by Romer, L.J., in a case decided last year.[‡] "If a person who, by virtue of his position or influence, has power to carry out his design, sets himself to the task of preventing, and succeeds in preventing, a man from obtaining or holding employment in his calling, to his injury, by reason of threats to or special influence upon the man's employers, or would-be employers, and the design was to carry out some spite against the man, or had for its object the compelling him to pay a debt or any similar object not justifying the acts against the man, then that person is liable to the man for the damage consequently suffered. The conduct of that person would be, in my opinion, such an unjustifiable molestation of the man, such an improper and inexcusable interference of the man's ordinary rights of citizenship, as to make that person liable in an action."

(*To be concluded.*)

SHERBORNE.

By the Hon. M. Dutton.

Sherborne is a house of some architectural and historical interest, but is not very generally known owing to its being situated in a remote part of Gloucestershire, on the Cotswold Hills. The present possessor is Edward Dutton, fourth Lord Sherborne.

Sherborne was originally a religious house, as it was a cell of Winchcombe Abbey, but in the year 1533 it came into the possession of John Allen, mayor of London and Privy Councillor to Henry VIII. The following is the account of the transaction given in an inaugural address to the Bristol and Gloucestershire Archæological Society by the present Lord Sherborne at Tewkesbury, in which he gave the history of some of the old deeds of Winchcombe Abbey which are still preserved at Sherborne. He says:—

> The last series of deeds which hang on to Winchcombe Abbey is that connected with the transfer of Sherborne from Allen to Dutton. It begins with a document which has a certain melancholy interest, as marking the beginning of the end of the great monastic system of England. Schemes of plunder were in the air, and doubtless the abbot and monks of Winchcombe thought it prudent to get what cash they could, so that when the robber came he might find as little as possible to rob. Accordingly on December 14, 1533, the abbot and convent of Winchcombe granted a lease of the manor of Sherborne for ninety-nine years to Sir John Allen, mayor of London and Privy Councillor to Henry VIII. What ready money they received for the lease does not appear; probably neither knight nor abbot wished it to be known. The rent named is "a corne of pepper" if asked for. This is signed by the abbot, prior, and twenty-three monks by their names in religion.

The manor of Sherborne finally came to the Dutton family from Christopher Allen, the nephew of John, and Etheldreda, a daughter of Lord Paget's, they having sold the property in the year 1551 to Thomas Dutton for the sum of 3,240*l.* The Duttons seem to have lived in the old monastic building, called the Cell or Grange of Winchcombe, until the time of John Dutton, who was born at Sherborne in 1596, and who was certainly the most interesting member of the family. John Dutton changed the inconvenient monastic Grange into a large and stately mansion by adding to it three sides of a square, in which he enclosed, and therefore preserved, the old cloisters. Inigo Jones was the architect, and the Brothers Strong, the great builders of the day, erected the building. John, second Lord Sherborne, the present owner's grandfather, rebuilt a great part of the house, but preserved the pillars in the Doric, Ionic and Corinthian orders of architecture on the mullions of the windows, which was one of the characteristics of Inigo Jones's style, and distinguished it from that of Thorpe, the well-known architect who immediately preceded him. The kitchen, the abbot's parlour (now the steward's room) and the cloisters are all that remain at the present time of the old monastic buildings, but Inigo Jones had left the monks' refectory, dormitory and chapel in what was called the monastery wing intact. The present Lord Sherborne's father could remember when he was a child running up and down the large empty rooms, and until John, Lord Sherborne, rebuilt most of the house and altered that wing it was the oldest inhabited religious house in England.

John Dutton also enclosed a portion of the Cotswolds to form a deer park, and employed Inigo Jones to design the lodge which he built there. The park was planted by the great architect, and was said to be the only ground he ever laid out. There was a paddock course made in front a mile long, where greyhounds were trained to course the deer. A warrant exists, signed "Oliver P.," dated June 18, 1655, giving an order that John Dutton is to have so many bucks, with so many does from Whichwood Forest, doubtless to stock the new park.

The roof of the lodge was flat, with a balustrade round it, from which the neighbours and friends, who were invited, saw the coursing, and were, it is said, entertained afterwards in the beautiful banqueting-hall of the lodge. The inside of the house remained as it had been left by John Dutton, with pictures, carvings, fittings and furniture, until about the year 1820, when it was all dismantled, the rooms at the back pulled down, and the part that was left made into two keepers' cottages. Inigo Jones's beautiful front is all that remains now of his work.[*]

It has been mentioned that this John Dutton, who practically built the dwelling-house at Sherborne of the size it now is, was the most interesting member of the family. A few particulars of his life therefore may be given. He was christened at Sherborne 1594, and came into possession of the property in 1618. He was deformed, and in consequence had the nickname of "Crump." He sat in the Long Parliament as a moderate Parliamentarian, and there is a tradition that he was twice returned to Parliament from Gloucester Gaol, where he was lodged because he would not pay ship money. This, however, is only a tradition. When the king was in trouble, then, as did many chivalrous-minded men of the time, he fought for him, and had to pay the heavy fine of 6,000*l.* in consequence. After the king's death circumstances brought him into contact with Cromwell, and he was inspired with so great an admiration for the Lord Protector that he would not leave his estates to his daughters on account of their steady adherence to the Crown, but made his nephew, William Dutton, his heir, and appointed Oliver Cromwell his guardian, with the expressed wish that if it so happened that they liked each other he might marry the Lord Protector's youngest daughter Frances. That, however, did not come to pass, and William died without children. Cromwell fulfilled his trust of guardian to the boy with much care. He sent him to Eton, and because he was delicate he went himself to choose lodgings for him there, and gave him Andrew Marvell, the poet, as his tutor.

There are two letters of Oliver Cromwell's at Sherborne, signed "Oliver P.," which deserve mention here: one relating to the Committee of Sequestration, and the other written to Mrs. Dutton on the death of her husband. The first, dated December 27, 1655, runs as follows:—

> A gentleman I understand you have sent to Mr. John Dutton, for a particular of his estate in pursuance of yo^{r} instructions. These are to let you know that the gentleman hath given so many real testimonies of his affection to the Government, and to my person in particular soe constantly for many years last past, that noe man y^{t} I know of, in England, hath done more, which is a thing known both to myself and divers of the Councell, and therefore as I would have wisht that I had knowne he had had any estate in your countrye before you had sent to him, soe now I doe desire you to for-

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[*] L.R. 1901, A.C. at pp. 536, 537.

[†] *Ibid.* at p. 542.

[‡] Giblan *v.* National Amalgamated Labourers' Union, L.R. 1901, 2 K.B. at p. 620.

[*] Emily Lady Sherborne, wife of the present fourth Lord Sherborne, has restored the lodge as far as possible as it was, and has added some bedrooms at the back.

SHERBORNE.

beare the sending any more to hym or of givinge to you or his estate any further disturbance whatsoever. In assurance of your conformitye hereto I rest

Yo^{r} lovinge Friend,
(Signed) OLIVER P.

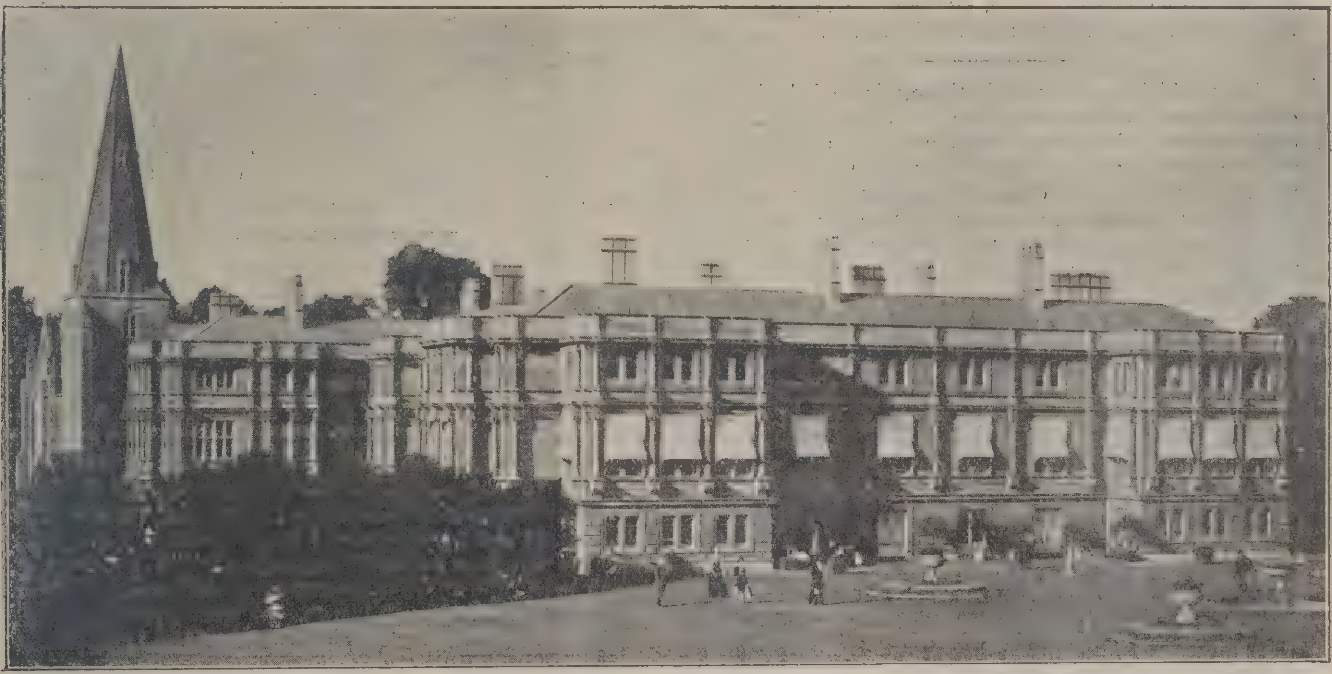
The letter to Mrs. DUTTON is as follows:—

23rd January, 1656-7.

MADAM,—I wish you comfort after yo^{r} great losse of your noble Husband, my very good friend, and shall be ready in what will lye in my way, upon all occasions to serve you. I take notice, by a coppe w^{h} I have seen of your husband's last will, that I have a great trust thereby committed to me wth relation to his heire, and to that estate which he hath left hym, and being fully assured that your Lad^{p} will most readilye concurre in all things to the same end, and havinge authorized a person on my behalf to attend ther to p^{r}vent the doinge of any thing which may be contrary to yo^{r} husband's Instructions, I desire he may be received in that capacitie, promisinge myselfe from the knowledge I have of the worth and Integritie of the Person that nothinge wilbe done, but becominglye by hym.

Your assured Friend,
(Signed) OLIVER P.

To return to young WILLIAM DUTTON. It seems that though JOHN DUTTON in his will, dated 1656, desires the Protector to take upon himself the guardianship of the boy, CROMWELL had some years before done so, and in 1653 WILLIAM DUTTON appears to have been living with the CROMWELL family, with ANDREW MARVELL for his tutor, at their residence in the Cockpit at Whitehall or at Hampton Court. WILLIAM was then an orphan, his father Sir RALPH DUTTON having died in 1646 and his mother before 1651. In 1653 WILLIAM DUTTON went to Eton accompanied by MARVELL, his tutor. They were particularly placed by CROMWELL in the house of Mr. OXENBRIDGE, a godly man and evidently a Puritan. There is a letter of ANDREW MARVELL's written to CROMWELL about his pupil, the original of which is now in the possession of the Society of Antiquaries, and in it he says of the boy, "Truly he is of a gentle and waxen disposition, and, God be praised, I cannot say he hath brought with him any evill impression, and I shall hope to set nothing upon his spirit but what may be of a good sculpture. He hath in him two things which make youth most easy to be managed: modesty, which is the bridle of vice, and emulation, which is the spur of virtue."



Two royal personages stayed at Sherborne for a few days at different times. In the time of WILLIAM DUTTON, according to the Wardrobe account, the house of Sherborne was specially prepared for the reception of Queen ELIZABETH for six days in September 1592, during Her Majesty's progress, and in the time of the first Lord SHERBORNE, GEORGE IV., when Prince Regent, stayed there for the Bibury Races. Those races were at one time very celebrated. The racecourse was on Lord SHERBORNE's property, about four miles from the house. Later the attendance diminished so much that in 1848 the race meetings were removed to Stockbridge, where they were still called the Bibury Races.

There are two works of art at Sherborne, both having for their subject old JOHN DUTTON, which deserve notice. One is his portrait,* which represents him sitting in an armchair with a spaniel at his side. His face is a fine and interesting one, and as he is sitting down his deformity and the smallness of his stature are not noticeable. The dog is very lifelike, and the second Lord SHERBORNE used in proof of it to tell a story of a real dog having gone up and barked at the one in the picture, thinking it was alive.

The other work of art is a quaint mural monument of him in the church, in which he is represented as standing up, apparently in his shroud. Underneath the figure his virtues and chief characteristics are recorded. Among other things it is stated that he had a large fortune, and a mind equal to the spending of it; in one way it was more than equal to it, as he was a great gambler. He lost, it was said, considerable estates in another part of the country, and the story goes that one day he actually staked Sherborne. Fortunately the butler heard the players say "Sherborne's up"; he ran in, seized his master, and carrying him off locked him into his room, and presumably turned the gamblers out of the house. There is another picture also worthy of notice, and that is one by ZOFFANY of Mr. and Mrs. NAPER DUTTON, their son, the first Lord SHERBORNE, and their daughter, who married Mr. COKE, of Norfolk, afterwards made Lord LEICESTER. The brother and sister are playing cards, and the father and mother are sitting by looking on at the game. The mother, according to the fashion of that day, is dressed quite as an old woman, though she could not have been sixty at the time the picture was painted.

Mr. Batsford is about to publish "Modern Cottage Architecture," edited by Mr. Maurice B. Adams. This volume will contain over fifty examples, each with a plan, selected from the works of well-known architects. Mr. Adams has written an introductory essay on cottage building and some descriptive notes.

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* Artist not certainly known.

NOTES AND COMMENTS.

EVERYONE is aware that the galleries of the Luxembourg, in Paris, are devoted to the works of French artists who are living. When the artists die the paintings or statues are removed to the Louvre or to some public gallery in the provinces. There is a society known as the "Amis du Luxembourg," and the members endeavour to enrich the collections. They have lately taken up the consideration of the artists whose works are exhibited. They have resolved to petition the French Parliament, asking that an allowance of 1 per cent. should be paid to painters and sculptors or their representatives on the amount which the works realise at public sales. In the case of an artist like MILLET, who received only an insignificant sum if compared with the market value of his work at the present day, the percentage would no doubt form a respectable sum. But, instead of increasing in value, the works of many painters and sculptors are not appreciated, and are sold for comparatively small sums. In such cases the proposed tax would not be onerous. Difficulties will no doubt be raised in the Chamber if the subject is considered concerning what constitutes a work of art. The salons now admit examples of what used to be known as industrial art, and such works may attract higher prices than paintings or statues. The men and women who produce them will no doubt claim the privilege of receiving a percentage. But obstacles of the kind can be surmounted, and the proposal is worth attention in other countries, especially in England where high prices are not always received by artists.

THE médaille d'honneur in the section of Architecture of the Salon has been granted to M. RENÉ PATOUILLARD, of Toulouse. He contributed a series of drawings of antique monuments in Rome, Sicily and Greece. But his most important exhibit was a set showing the actual state, as well as a restoration, of the remains on the island of the Tiber, at Rome. It is believed that at one time the island was faced with stone and marble. The two extreme points assumed the form of a ship on which was placed the Temple of Æsculapius. Some of the blocks of travertine which formed the hull have survived. The island was connected with the banks of the river by bridges, which in their original condition must have been remarkable works. The island is about 1,000 feet in length by 300 feet in width. It contains the church and convent of S. Bartolommeo and the church of S. Giovanni Calabita. The first medal was awarded to M. E. FRIESÉ for his design for the generating works of the Metropolitan Railway of Paris.

IN the north-western district of Prussia, between Pritzwalk and Wittstock, there still survives an ancient convent which in Germany at least must be considered as unique. It is unnoticed in German books on architecture. The locality was part of the ancient Kurmark, that is, the closest to the Wends, which was ruled by margraves, who afterwards made their way eastwards towards Berlin. The convent was founded, it is believed, in 1287. Land in those days in a district that was only partially cultivated was probably not difficult to acquire, and the estate belonging to the institution contained about 2½ square miles. Like so many Mediæval establishments the site was prudently selected. The soil was adapted for cultivation, there were streams and lakes, and, what is still essential in Germany, forests from which fuel could be obtained. The place was known as the Kloster Heiligengrabe, and was the scene of a miracle depicted on the chapel walls. It became a popular place of pilgrimage. The buildings are still said to be well preserved. They form a square, one side of which is occupied by a large church. The cloisters are vaulted and the pavement formed of ancient gravestones. The cells in which the nuns used to reside are now empty, for the fortunate ladies representing the Mediæval nuns live in houses which are separated from the cloisters and resemble those in the *béguinages* of Belgium. After the Reformation, JOACHIM II., known as the HECTOR of Germany, the Kurfürst in Brandenburg, commanded an inquiry into the convent and placed it under control. The inmates retired, but in 1649 it became once more a residence for ladies. CARLYLE describes JOACHIM as "rather an expensive Herr; built a good deal, completion of the Schloss at Berlin one example; and was not otherwise afraid of outlay." The institution under the new arrangements again fell into an unsatisfactory condition, and that sternest of economists, FRIEDRICH WILHELM, ordered another visitation in 1714, when a less extravagant system was enforced. The old convent was lately visited by the Emperor, and it should possess interest for him, for it is closely connected with the history of the House of BRANDENBURG.

THE authorities of the University of Edinburgh have approved of the following resolutions adopted at a meeting of representatives of the universities and agricultural colleges in Scotland, convened on 27th ult. by the Royal Scottish Arboricultural Society:—1. That it is desirable to advance education in sylviculture in Scotland. 2. That it is desirable that a degree in forestry be instituted in the Scottish universities. 3. That a demonstration forest be provided by Government as near the centre of Scotland as possible, and be available on equal terms to all students of forestry in Scotland. 4. That any educational institution which lays itself out to provide education in forestry and establishes an experimental area or forest garden in connection therewith be entitled in respect thereof to Government support. 5. That a good grounding in forestry form an integral part of the curriculum of the colleges providing instruction in agriculture, and that short courses of instruction suitable for the requirements of young foresters be also provided there. 6. That instruction be given in neighbourhoods where there is a suitable area under wood, and that scholarships be offered in such centres to enable working foresters to attend courses of lectures. The arrangement recommended is an example of the practical efforts which are made in the North to provide technical education that will be suited to the circumstances of the present time.

ILLUSTRATIONS.

GLADSTONE MEMORIAL LIBRARY, HAWARDEN: NORTH-WEST VIEW.

SCREEN TO THE BOTELERS' CHAPEL IN PARISH CHURCH OF WARRINGTON.

THE screen marks off the Botelers' Chapel from the north aisle, at whose eastern end it has been erected. It is divided into seven bays; the centre one forming the entrance to the chapel contains the regimental badges carved and emblazoned, and surmounting the whole are three angel figures, the upper one representing Victory. Over the traceried heads of the side portion a cove has been carried, and above this a crested cornice enriched with canopied shields charged with the sacred monograms, emblems of the Passion and initial of the patron saint of the church, St. ELPHIN] On the north wall near the screen is a repoussé latten brass framed in oak recording the names of those to whose memory the screen has been put up. The work has been very well carried out in English oak by Mr. ROBERT BRIDGEMAN, of Lichfield, at a cost of about 400*l*., from the designs of Messrs. DOUGLAS & MINSHULL.

CATHEDRAL SERIES.—CHESTER: GENERAL VIEW OF CHOIR.

STAIRCASE: LLOYD'S BUILDING, FENCHURCH STREET, E.C.

THREE HOUSES, WORCESTER PARK, SURREY.

THESE houses are built with rough-cast walls and tiled roofs. Messrs. R. JONES & SON, of Sutton, were the builders. Mr. H. D. SEARLES-WOOD, F.R.I.B.A., of 157 Wool Exchange, Coleman Street, was the architect.

WALTON LODGE, BANSTEAD, SURREY.

THIS house, which is built on the site of the old house in charming grounds, incorporates some of the old walls, but is entirely replanned. The walls are rough-cast, with a red-brick plinth and red-brick chimneys and red-tile roofs. The stables are entirely new, and are finished with rough-cast and red tiles and copper ventilating turret. The work has been carried out by Messrs. R. JONES & SON, of Sutton, the modelled plaster-work by Messrs. SHUFFREY, of Welbeck Street, and the hot water by Messrs. Z. D. BERRY & SON, of Westminster. Mr. H. D. SEARLES-WOOD, F.R.I.B.A., of 157 Wool Exchange, was the architect.

ART IN AUSTRALIA.

Although there have been no striking developments in the art history of the year, steady progress has been effected, says the "Australian Year Book," and the general work of Australian studios evinces considerable improvement, both in design and execution, which is the more encouraging considering the limited assistance received by Australian artists from the wealthier section of the Commonwealth community. The late Mr. Alfred Felton, of Messrs. Felton, Grimwade & Co., chemists, of Melbourne, was, however, a notable exception, having left a will dated August 1900, in which nearly the whole of his fortune, amounting to about 500,000*l.*, was given to the art gallery and the charitable institutions of Victoria. The portion of the income to be utilised for art purposes is to be employed in the purchase "of works of ancient or modern art, antiquities, or other works or objects of artistic or educational value calculated to raise or improve the public taste." These works will be placed in the Melbourne Art Gallery. Mr. Felton has not hampered the committee with any stipulations as to the art purchases for the National Gallery, and the Melbourne Art Gallery is given leave to make selections from the deceased gentleman's magnificent collection of pictures and articles of virtu. Any selections or any purchases are to be labelled "The Felton bequest."

Obituary.

The deaths during the year include that of Phil May, who, although not an Australian by birth, resided in the Commonwealth sufficiently long to become one of its best known public characters. A sale in Sydney of his black-and-white drawings of Australian subjects, followed by another in Melbourne, realised some of the best prices obtained in those cities for this class of artistic work.

Another death was that of Neville Cayley, the well-known painter of Australian bird-life. He was a native of Dover, England, and had reached the age of fifty years, more than half of which he spent in New South Wales. In the Sydney National Art Gallery Mr. Cayley is represented by one of his masterpieces in water-colours—"Wounded Duck." He also executed the drawings in the work, "Nests and Eggs of Birds Found in Australia and Tasmania," recently issued by Mr. Alfred J North, of the Sydney Museum.

Australian art also sustained a heavy loss by the death of Mr. W. J. Maxwell, the South Australian sculptor, who died in Adelaide at the age of sixty-one. He arrived in Melbourne in 1875, and four years later went to South Australia. His works have made him widely known throughout the Commonwealth, among the principal being the statue of St. Patrick and the altar and font at St. Mary's Cathedral, Adelaide. He executed sculptures for Adelaide Parliament House and many other public buildings in Melbourne. Among his works in South Australia are a beautiful statue of Burns in Adelaide, and sculptures in connection with various banks and other buildings.

Australian Art Abroad.

Among the pictures in the Royal Academy Exhibition, London, was one by Mr. M. J. Dawson, a young Sydney architect, who went to England in 1900 to continue his studies. Other exhibitors were Mr. John Longstaff and Miss Edith Lumley, the latter also having a picture in the Paris Salon. Mr. Tom Roberts has had his picture of "The Opening of the First Australian Parliament" inspected and commended by the King. Mr. John Longstaff, who is also in London, has been commissioned by the ladies of New South Wales to paint a portrait of Queen Alexandra for presentation to the Sydney Art Gallery.

New South Wales.

During the earlier part of the year one of the panel spaces of the façade below the plinth of the Sydney Art Gallery was filled with a bronze bas-relief of "Phryne before Praxiteles," by the late Mr. Percival Ball, of Melbourne. It is considered a fine work of art, measuring 11 feet by 8 feet, and showing Phryne as the central object of a group of seven life-size figures, four of which are prominent, whilst three are in very low relief. The notorious *hetaira* has unveiled her beauty with a proud, defiant gesture, in which she stretches at the full length of her rounded arm the scant diaphanous draperies of her classic undress. Her other arm is bent back to smooth her hair, which flies upon the wind between the gossamer texture and her bare limbs. She stands straightly up, resting the weight of the body chiefly on one leg, and at the same time leans slightly back, in curving lines of marvellous grace, so that the "vera dea patuit" is suggested even without the allusion to the "walk" that completes the Virgilian verse. Praxiteles is seated at an easel making a preliminary crayon sketch. The earnest intentness of the handsome youthful face of the sculptor is striking. Various attendants complete the group, which is generally marked by breadth and grace of treatment, whilst the composition is dignified and simple.

The additional space secured by the alterations and additions to the Sydney Art Gallery has enabled the collection—the finest and largest in the Commonwealth—to be displayed to the utmost advantage. Recent additions include :—

Oil-Paintings.—"Alfred, Lord Tennyson," by G. F. Watts, R.A. (replica, presented by His Excellency Lord Tennyson, Governor-General); "Dolores," by J. S. Watkins; "La Guitarite," by G. W. Lambert (diploma picture, under the conditions of the Travelling Scholarship); "Mount Kosciusko," by W. C. Piguenit; "The Oldest Living Australian" (Mrs. Phillips), by H. Moore-Jones; "Suffolk Harvest Scene," by A. Streeton; "Terrigal Haven," by G. V. F Mann; "Venice," by H. Lity.

Water-Colours.—"Chrysanthemums," by J. A. Bennett; "Last Days of the Campanile, St. Mark's, Venice," by R. Wake Cooke, R.W.S.

Black and White.—Pencil Sketch—a portrait, by Phil May.

Original Drawings.—Portrait of Sir F. C. Burnand (E. Ward), portrait of Mrs. Patrick Campbell (S. J. Soloman, A R.A.), portrait of Right Hon. J. Chamberlain (E. Ward), "Dublin Street Scene" (Walter Osborne), Head (H. Herkomer, R A.), Head of Girl (John Lavery, R.S.A.), Decorative Panel (Walter Crane, A.R.W.S.), "Première Communion" (P. R. Morris, A.R.A.), "Return of Persephone to Earth" (A. Haecker), "Sarpedon" (Sir W. B. Richmond, K.C.B., R.A.), "Shine and Shower" (Henry Moore), "Miss Tonks" (Frank Hall, A.R.A.), Portrait of J. L. Toole (Hon. John Collier).

The miscellaneous additions include a fine series of heliographic reproductions of Egyptian portraits, dating back to the Hellenic period—A.D. 100 to 200—presented by J. A. Parrot; and an artist's easel belonging to the late Sir Edwin Landseer.

A portrait of His Majesty the King, a commission from the Art Gallery trustees, is being painted by Mr. John Longstaff, from special sittings by His Majesty, who has cordially approved of the work. During the year the trustees awarded the Wynne art prize for the current year to Mr. E. Officer's oil-painting, entitled "Glenora," previously exhibited at the Royal Art Society's exhibition.

The present trustees are :—President, E. du Faur, F.R.G.S., vice-presidents, Sir James R. Fairfax and Josiah Mullens, F.R.G.S.; Sir Julian Salomons, K C, K.C.B, Hon. J. H. Carruthers, A. Collingridge, Henry Gorman, W. Lister Lister, John Sulman, F.R.I.B A., Sir F. B. Suttor, M.L.C., J. St Vincent, Welch, Hon. B. R. Wise, K C, Thos. Marshall, and the State Minister for Public Instruction for the time being; secretary and superintendent, Mr. George E. Layton.

Under the title of "Royal Art Society," the amalgamated Sydney Art Societies are making steady progress, their autumn and annual exhibitions each containing a number of works of more than average merit. The same may be said of the exhibition of works by students attending the art classes. There has been some talk of the Government taking charge of the art classes, but so far nothing has been done.

At the first annual exhibition of the Sydney Sketch Club about 150 pictures in oil, water-colour, and black and white were shown.

Mr. James White, the Sydney sculptor, is engaged on a statue of Queen Victoria for the city of Bendigo. The cost of the work, pedestal and subsidiary figures representing Wisdom, Justice, Progress and History, will be 8,000*l.* Among other sculptured works of the year were a bust of Kendall, the Australian poet, by J. P. Woods.

Queensland.

Despite the absence of a proper art gallery and the assistance of the State, the fifteenth annual exhibition of the Queensland Art Society showed steady progress, although the number of pictures was less than in previous years. One of the best works was "Under the Jacaranda," by Godfrey Rivers.

The collection in the temporary National Art Gallery in Brisbane is large and interesting, comprising fifty works in oil, twelve in water-colour and five in black and white, the latest additions being three works in oil, "The Grave Scene from Hamlet," by F. Cadogan Cooper, and "Sydney Harbour" and "Farm Cove," artist unknown. The loan collection includes twelve works in oil, thirteen in water-colour and three in black and white. The annual State grant in aid of the Gallery is 250*l.*, the total revenue for the year being 406*l.*, out of which only 100*l.* is available for purchases.

South Australia.

In no part of the Commonwealth is art more liberally patronised than in South Australia, where during the year a number of interesting additions have been made to the National Art Gallery in Adelaide, comprising three

Oil-Paintings.—Portrait of Sir T. Fowell Buxton, G.C.M.G., by Hon. John Collier; "On a Clear Day," by J. Farquharson, A R.A.; "Watching for the Boats," by Pierre Billett.

Black and White.—"Princess of Wales, Lady Tennyson and Suites," by Sydney P. Hall; portfolio of line drawings[*] by various artists; seventeen drawings,[†] by various artists; three sketches by Phil May. Other additions were a bronze bust of Sir John A. Cockburn, presented by Alfred Drury, A.R.A., and fine collections of coins and medals.

At the annual Federal exhibition of the South Australian Society of Arts the State was well represented, especially by H. S. Power, who appears to have infused the spirit of Australian life into his work. Another prominent exhibitor was James Ashton. Victoria, New South Wales and Queensland also contributed to the display. At the opening ceremony, Sir Samuel Way, Lieutenant-Governor, said that during the last five years the trustees of the National Art Gallery had spent 1,500*l.* exclusively in the purchase of works by Australian artists. If the other picture galleries of the Commonwealth had acted in like manner and to an extent proportionate to their size, from 10,000*l.* to 20,000*l.* more than had actually been expended would have been laid out in the encouragement of local art. He also remarked that the works purchased for the great galleries of the different cities of Australia had to hang side by side with examples of the pictures of modern painters in England and Europe, and did not suffer by comparison.

Some excellent work was shown at the annual exhibition of the South Australian School of Design and Technical Art, which is doing much to improve the general standard of art taste in the State.

Tasmania.

Although the "Garden State" abounds with beauty spots of the loveliest description, little appears to be done in securing their reproduction for the walls of the National Art Gallery in Hobart, the permanent additions to which appear to be comparatively few and far between. The only fresh features during the year consisted of three oil-paintings by W. C. Piguenit, loaned by Mr. H. Page. These comprised "Mount Dromedary, from the Road to New Norfolk," "The Silvery Tide, Lane Cove, near Sydney," and "In the Gloaming." Two others were "Portrait of a Monk," by H. Edith Grace, and "Calm and Deep Peace," by Anna Griffen.

A fine collection of Indian art-work has also been loaned by Mr. Page, one of the principal features being a bracket, in teak wood, from Ahmedabad, in the Bombay Presidency. The back is a copy of a stone-tracery window in a mosque in the city of Ahmedabad; the pillars and railings copied from the same building. This unrivalled window tracery gives protection from the weather, and at the same time admits free ventilation, and it is executed both in red sandstone and in the crystalline white marble of Rajputana. There were also ten Indian water-colour paintings, including the following:—"Consecration of Colours presented by Lady Jane Dundas to the 3rd Regiment of Royal East India Volunteers, June 29, 1799;" "Front of the East India House, Leadenhall Street, London, as rebuilt in 1796;" "Elevation of the Chentghai, near Shahlimar Gardens;" "Pavilion in Wazir Khan's Mosque, Lahore;" "Gateway of Wazir Khan's Mosque, Lahore;" "The Emperor Jehangir, who at Ajmere gave audience to Sir T. Roe, the Ambassador of King James the First of England, to the Great Moghul."

The annual exhibition of the Art Society of Tasmania was very successful, the exhibits being larger than during the previous three years. A creditable exhibition of the Tasmanian Art and Crafts Society was also held.

Victoria.

The munificent bequest of the late Mr. Felton has relieved the trustees of the Victorian Art Gallery from the straitened circumstances in which they had become placed by the necessity for strict economy in the State expenditure; and when the funds so generously provided become available the institution will rival that of Sydney in the variety and wealth of its art collection, the additions to which during the year were as follows:—

Oil-Paintings.—"Between Tallarook and Yea," by Louis Buvelot; "Landing of Captain Cook at Botany Bay," by E. P. Fox.

Water-Colours.—"Burke and Wills's Exploring Expedition," by W. Strutt; "English Lake Scenes" (two), by John Varley.

The miscellaneous additions included a marble bust of Louis Buvelot, by E. Bertram Mackennal, a pen-and-ink drawing by Harry Furniss, and photographs of "Horses Bathing in the Sea," from oil-painting by Lucy E. Kemp-Welch; and of members of the first Federal Parliament. A number of art objects have also been added to the collection, which is becoming one of considerable interest and value.

With reference to the picture of the landing of Captain Cook, the trustees explain that it was obtained under the terms of the Gilbee Bequest. The late Dr. Gilbee, of Melbourne, bequeathed a sum of money to the trustees to be spent on the purchase of a picture illustrating an incident in Captain Cook's visit to Australia, or in the exploring expedition under Burke and Wills. Arrangements have been made by which the trustees will obtain two pictures illustrating these subjects, the commission for the second being given to Mr. John Longstaff, the winner of the first travelling scholarship awarded by the trustees. The idea is regarded as an excellent means of encouraging Australian art, and will probably find emulators.

The loan collection comprised—

Oil-Paintings.—"Boy's Head," by G. Clausen, A.R.A.; "The Foil," by Hugh Ramsay; portrait of W. Howitt, by T. Heaphy; "Howitt Burying Remains of Mr. A. W. Wills, by William Strutt; "Jeanne," by Hugh Ramsay; "Lady of Cleveland, U.S.A.," by Hugh Ramsay; "Madge," by Hugh Ramsay; "Marjorie," by John Longstaff; "Queen's Diamond Jubilee Procession," by Professor L. Tuxen; portrait of Charles Schneider, by Hugh Ramsay; "Student of the Latin Quarter," by Hugh Ramsay.

Western Australia.

The progress of the National Art Gallery at Perth remains slow, as in previous years; but with a revival of material prosperity in the State some advance will be made in the direction of adding to the contents of its walls. The purchases during the last few years include the following:—

Oil-Paintings.—"The Armenian," by W. Muller; "At the Death," by F. Sartorius; "Coming Storm," by T. Barker; portrait of Elizabeth Cabelyan, unknown; "Head of J. Ogier," by T. Gainsborough, R.A.; Landscape, with figures, by F. J. F. van Blomen; "The Nativity," by Carlo Maratti; "Ruins at Tivoli," by R. Wilson, R.A.

Water-Colours.—"Showery Weather, Lincolnshire," by James Orrock; "Abdication of Mary, Queen of Scots," by Sir James D. Linton, P.R.I.

Several copies of the old masters have also been added to the collection, including a portrait of Gervartius, after Vandyke; "An Old Woman," Rembrandt; and "Head of a Man," Frank Hals.

Complaints of the want of a suitable building for housing what promises to become a fine collection continue to be made, the proposed art gallery, of which the Prince of Wales, when Duke of York and Cornwall, laid the first stone, not having been commenced.

In the meantime, the Western Australian Society of Arts remains indefatigable in its endeavours to diffuse a high artistic taste throughout the State. The ninth exhibition of the Society, which was held in September, 1903, proved very successful. The applied arts were much in evidence—such works as *repoussé*, leather-work, wood-carving and enamelling occupying quite a considerable portion of the space, and attracting a great deal of attention and favourable criticism. The oil-painting section was not up to the standard of previous years, but the water-colour section fully atoned for all shortcomings.

Statuary.

The statue of the late Sir Thomas Elder, recently erected in Adelaide, is a fine example of the sculptor's art, and the same may be said of the statue of Burns, which was recently unveiled in Melbourne. It is proposed to be supplemented by statues of Shakespeare and Thomas Moore, the Irish poet, while in Sydney preparations are being made for the erection of a statue of Burns. A series of bronze panels for a war memorial in Perth, W.A., have also been completed by Mr. James White, of Sydney.

PROTECTION OF ANCIENT BUILDINGS.

THE general meeting of the Society for the Protection of Ancient Buildings was held on Friday last at the rooms of the Society of Antiquaries, Burlington House, when Mr. Holman Hunt gave an address on the work undertaken by the Society. The Hon. Percy Wyndham occupied the chair, and there was a large attendance of members.

The Chairman, in moving the adoption of the report, observed that in former times their efforts were largely directed to finding fault with people and attempting to put them in the right way with regard to dealing with ancient buildings. That state of things in a great measure had changed. People now came to the Society in increasing numbers for advice as to the best way of repairing not restoring the edifices under their charge. The more excellent way of preserving an edifice of historic interest was also the way which gave less trouble and cost less. Referring to a proposal to restore Fotheringhay Church—associated with the memory of Mary Queen of Scots—at a cost of nearly 7,000*l.*, he said that a gentleman of authority, not a member of this Society but imbued with their ideas, was prepared to stake his professional reputation as an architect that the church might be repaired and saved for an outlay of 2,000*l.*

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[*] Presented by London *Daily Chronicle.*

[†] Presented by the London *Graphic.*

Mr. H. Ellis seconded the motion, which was adopted.

Mr. Holman Hunt remarked that the formation of the Society might be justly attributed to William Morris, who recognised the need of doing something to check the destruction of ancient buildings and monuments which was going on in a high-handed manner in every part of the country. It was not the declared enemies of order and beauty who wrought the greatest evil; many of those who did so were, on the contrary, enthusiasts for the beauty of the architecture and monuments of our land. He thought that the people who wrought the greatest evil were the resurrectionist Gothic architects, who were idolaters of the correct period. Everything that was not of the correct period they were ready to demolish, no matter what historic interest it possessed. It was often very disheartening to see the attitude assumed by persons in whose hands the casting vote as to the demolition of an ancient structure remained. What such individuals said was, "Oh, my consideration is not for fanciful interests; what I look to is utility." They failed to see that there was any connection between beauty and utility. Socrates laid it down that beauty was founded upon fitness, and fitness was utility. It was the sacredness of those feelings, observed by their architects, sculptors and decorators of all kinds, which had made Greek art everlasting, and that had now resuscitated Greece from the tomb into which she had fallen. The same might be truly said of Italy. The art it created only a few hundred years ago was the thing which had restored Italy to existence. Who would have cared about exerting themselves to save either country but for the precious inheritance they left to us? Although this Society had not succeeded, in all cases, in staying the ravages of the despoilers, yet it had done a great deal. The spirit of beauty had never been left unrecorded by nature. Infinite pains had been employed by nature to preserve for the eyes of this generation specimens of animal and vegetable life, both rough and beautiful, in the distant past, and it would be a shame not to follow the example thus set us, but allow the ancient buildings in our midst to disappear from the sight of those who came after us. At this particular moment, when beauty had again departed from the land, when many of our carriages no longer had beautiful animals to draw them along the road, but were made into square boxes, and when our warships were modelled like coal-scuttles, it became a duty to develop beauty and follow the example of all that was making for it in nature. The whole spirit of generosity and recognition of this beauty should be appealed to, and everything possible done to induce rich people to assist those who, moved by the same spirit as that which led William Morris to found this Society, were now working for them in Crete, in Egypt and in Syria. He did not think anything would be lost by making it a larger question than that of the particular work which they themselves were doing.

Mr. Somers Clarke, who proposed a vote of thanks to Mr. Holman Hunt, spoke of a few matters which had come under his notice in connection with the repair of monuments of Christian and Saracenic art in Egypt. He referred particularly to the red and the white monasteries near Sohag, within sight of the ancient city of Aklimim, from which so many of the finest Coptic embroideries at the South Kensington Museum had come.

Mr. Emery Walker seconded the motion, which was agreed to unanimously.

METROPOLITAN WATER BOARD.

The works committee have reported that they had had under consideration the question of the steps to be taken with a view to providing for the continuance after the appointed day of that section of the Board's work chiefly dealing with the department of engineers. The general practice of the different companies appeared to be that the engineers submitted all matters involving increased expenditure to the directors for approval, while with regard to the ordinary maintenance of the works the engineers have authority to take such steps as may be necessary in order to secure the maintenance of the undertaking in a proper state of efficiency. Some of the engineers appeared to possess full power with regard to the purchase of stores, while others obtained the sanction of their directors before purchasing. As regards staff, the practice of the companies differed to a large extent, and in one case the engineer had almost unlimited control, whereas in others all appointments, even of weekly servants, were submitted for the sanction of the directors. In order that there should be no break in carrying on the work pending definite arrangements, the committee recommended "That the works committee be authorised until further orders to give the respective chief engineers of the water companies the same authority as is conferred upon them at the present time by their boards of directors, subject to such variation as may under the altered circumstances be necessary, and subject to the condition that coal and stores are only ordered with the sanction of the committee, to be given on requisitions to be submitted in advance by the engineers." This was agreed to without discussion.

PAYMENT FOR QUANTITIES.

An action was brought by Messrs. Slevin & Son, quantity surveyors, Dame Street, Dublin, against Rev. Mother M. A. Barry, of Loreto Convent, Navan, to recover 205*l.* 18*s.* 10*d.* in respect of work done and money expended by the plaintiffs as quantity surveyors. The defence was a denial that the plaintiffs did any of the work or incurred any outlay, or that the defendants requested the plaintiffs to do any of the alleged work, and that the amount charged was unreasonable. The action was heard by Mr. Justice Andrews and a special jury.

The Solicitor-General, in opening the case for the plaintiffs, said the defendants were a community of nuns. In July 1900 the nuns, with the assistance and under the guidance of their bishop, were anxious to extend the accommodation of their convent, to erect a chapel and to erect certain buildings in connection with the school—work of a very large and intricate character. Mr. O'Callaghan, architect, was employed by the nuns, at the suggestion and with the consent of the bishop. His (counsel's) experience of clergymen of all denominations was that they made the worst class of business men. In the first place, they were anxious to do work as cheaply as possible. They seemed to think that business men should be inspired with those feelings of religion and charity that would induce them to let down clerics easier than others. Where work of this kind was of considerable magnitude it became necessary that a quantity surveyor should be furnished with plans, and that he should specify quantities to be submitted to builders who tendered for the work. The bill of quantities, in the present case, was the work done by the plaintiffs, and it was for this work they were suing. Messrs. Slevin were engaged in the ordinary way by the architect to furnish bills of quantities. Having sent on to the architect on November 1 or 2, 1900, the quantities and measurements, plaintiffs heard no more about the matter for some weeks. Mr. O'Callaghan was ill at the time, and this fact may have explained the silence on the subject. On February 12 following Messrs. Slevin sent on the bills of quantities to the superioress at Navan, and in reply they received a letter dated February 14 saying that the bills had been sent on to the bishop, who wrote subsequently saying that he never got the quantities. He (the Solicitor-General) had no doubt that the bishop did get the bills of quantities, and that in the multitude of his spiritual cares he forgot them. At any rate, the plaintiffs never got them back. It would seem that the bishop was getting frightened at Mr. O'Callaghan's estimate of the cost for the whole of the work, some 20,000*l*, and he came to the conclusion that he would not go on with the entire work at once, and in April 1901 he apparently gave orders to Mr. O'Callaghan to start with only one section. The bills of quantities were not to be used apparently, but the plaintiffs naturally thought that their work should be paid for. On June 12, 1901, Mr. O'Callaghan wrote to the bishop explaining how he came to employ the plaintiffs. He said:—

"With regard to the bills of quantities for Loreto Convent, I beg to inform your lordship that they were ordered by me in the ordinary course of the profession. It would be impossible to get in tenders in competition without them, particularly in an open competition. They are paid for by the successful contractor, as you will perceive by the bill. In the case of no competition the same course would be pursued, and the cost paid by the contractor selected, but there is no real difference made to the client. I enclose a circular from the Master Builders' Association saying that they will not tender for any important work unless quantities are supplied and prepared by surveyors."

The bishop had evidently been informed in the meantime of the claim made by Messrs. Slevin for the work done in the previous year, and he had got angry with Mr. O'Callaghan, and asked him why he had employed quantity surveyors. They had heard Mr. O'Callaghan's letter of explanation. It did not, as Mr. O'Callaghan explained, make any difference to the client, as the builder getting the contract paid the money. That was the custom where the work went on, but if the work did not go on was the architect not to be paid, and were the quantity surveyors not to be paid? In that case, counsel contended, the person who had employed the architect and quantity surveyors was liable. Later on the bishop had written saying that he had not employed the quantity surveyor, and could not and would not pay him. Mr. Slevin, the head of the firm, did not wish to give any trouble, he only wished to be paid for his work. The real question in the case was whether Mr. O'Callaghan was authorised by the defendants to procure tenders for the work. Counsel read some further letters for the purpose of showing that the architect had been regularly employed, and was entitled to make all such preliminary agreements.

Mr. T. F. Slevin said it was his business to make out from the plans of an architect a survey of the quantities of materials required for a building, and it was upon that survey that tenders were invited. Asked whether there is any custom as to payment for the services of the surveyor, counsel for defendants objected to the question. It had been decided that it was an invalid custom.

Mr. Justice Andrews said he would take the question, and the point could be argued afterwards.

The witness said the party employing the architect in all cases paid directly. In some cases the owners of the building paid the surveyor direct, but invariably fees were added by the contractor at the end of the total cost of the building, on the summary page of the bill of quantities. If there was no contract the owner then pays the surveyor. The fixed rate of payment for preparing bills of quantities is 1½ per cent. on the total amount of the lowest tender, together with the cost of the copy of bills and lithographing. When there were no tenders the practice is that the surveyor is paid his fees by the owner of the building. This is calculated on a valuation of the work contained in the bill of quantities. The calculation was generally based on the valuation of the surveyor. These customs prevailed all over Ireland. In 1900 he received plans and specifications from Mr. O'Callaghan, architect—sixteen sheets of plans for additions to the Loreto Convent, Navan.

Mr. Henry, for defendants, said the whole case for the defendants was that Mr. O'Callaghan had no authority to employ the witness.

The plaintiff further stated that he had made out a bill of quantities on the plans received from Mr. O'Callaghan. There were twenty copies of 81 pages each.

Mr. John J. O'Callaghan, who had prepared the plans at the request of the bishop and the superioress of the convent, said he sent them to the plaintiffs' firm for bills of quantities to be made out. In cross-examination, the witness said he had never told the nuns or the bishop that he was going to employ Messrs. Slevin to make out the bill of quantities. It is the custom of the profession for an architect to employ a quantity surveyor.

Mr. Albert Murray and Mr. W. M. Mitchell were called to show that it was the custom of the profession for the architect to employ a quantity surveyor without the previous knowledge or authority of the building owner, and that the rate of remuneration was 1½ per cent. Mr. Mitchell said that he always deemed it expedient in his own practice to inform his employer that he was about to employ a quantity surveyor.

Mr. R. C. Orpen, architect, said it was customary in the case of sums exceeding 500*l.* to prepare bills of quantities detailing the material required and the amount of workmanship necessary for the erection of the building. He would not say that it was the universal custom in Ireland to employ a quantity surveyor without consulting the client, but it was a frequent practice.

Mr. Martin, of the firm of H. & J. Martin, said that the cost of making out bills of quantities was added to the general bill at the rate of 1½ per cent., and was paid by the building owner. He had priced out the bills of quantities in the present case, and the figure at which he arrived was 12,451*l.* 16*s*, which included 196*l.* 2*s.* 8*d.* surveyor's fees, and 12*l.* 16*s.* for copies of the bill.

Mr. Henry, K C, for the defendants, asked the Court to direct a verdict for the defendants. The attempt to prove the existence of a certain custom in the building trade had, he contended, failed, and the authority to employ a quantity surveyor which the plaintiff claimed had been negatived on his own evidence.

Mr. Gordon, K.C., having been heard on the other side,

Mr. Justice Andrews refused to give the direction asked for.

Mr. Henry said that the question for the jury was whether the architect had authority from the defendants to employ a building surveyor. Mr. O'Callaghan's own view was that he had no such authority from either the bishop or the nuns to do so. The claim was based on a custom stated to be general in the building trade, but the various architects who had been examined on that point had not established the general existence of any such custom. Not one of the defendants, nor even the bishop, who was associated with their interest in the matter, knew anything at all about the custom referred to, and they had acted throughout in entire ignorance of it.

The Most Rev. Dr. Gaffney, Roman Catholic bishop of Meath, was examined, and deposed that neither directly nor indirectly did he authorise Mr. O'Callaghan to order quantities or to invite tenders. Mr. O'Callaghan did not know, even for weeks after the tender for this work had been accepted, to whom it had been given, nor the price at which it had been given. He did not allow Mr. O'Callaghan to ask for tenders, but insisted that the tenders should pass his own inspection, and directed that they should be sent to the Palace, Mullingar.

Cross-examined: He had never received Messrs. Slevin's bill of quantities. When Messrs. Slevin wrote to him about the fees for their bill of quantities he wrote back stating that he had not employed them to do any such work, and advised them to apply to whoever had engaged them to do the work.

The Superioress of the convent stated that when she undertook the extension of the buildings with the bishop's permission, his lordship introduced Mr. O'Callaghan to her, but she made no agreement with him; never gave him any instructions nor ordered bills of quantities. She first heard of the latter when Mr. Slevin sent her a copy in February 1901. She did not even know what a bill of quantities was at the time. By the advice of Rev. Dr. Dooley, whom she consulted, she put the documents aside. It was a mistake to say that they were sent to the bishop.

In reply to Mr. Chambers, who questioned witness as to Mr. Slevin's letters asking for payment, she stated she was under the impression that it was no consequence whether the bills of quantities remained with her or the bishop.

Why did you not send his lordship the bills and letters of Mr. Slevin?—It never struck me it was necessary. Witness further said his lordship told her not to trouble with correspondence, as she "had nothing to do with the matter."

Mr. Francis Gogarty, Drogheda, who constructed the new buildings, said he took out quantities and sent a priced bill in with his tender. He was working with his son at the quantities for about a fortnight. The taking out of the bill of quantities cost about 5*l.*

Mr. Justice Andrews intimated that he would take the opinion of the jury on the questions submitted by Mr. Gordon.

Mr. Healy then addressed the jury on behalf of the defendants, and Mr. Chambers, K C, replied.

The jury after being an hour deliberating were unable to answer any of the questions submitted to them. They were accordingly discharged.

EGYPTIAN EXPLORATION.

A LETTER has appeared in the *Times* from Mr. John Ward, F.S.A., who says:—Some years ago you were good enough to insert a letter from me regarding the management of the Department of Antiquities of Egypt. Since then matters have assumed a new phase, much for the better in every way. M. Maspero was brought back to the direction of the museum, and given two energetic Englishmen to help him, Messrs. Quibell and Howard Carter. Quibell was trained under Petrie, and Carter under Naville. Both had earned their spurs—Quibell by his wonderful discoveries of the bronze statues of King Pepy (fifth dynasty) and the gold hawk of Hierakonpolis, while Carter made his fame by his exquisite reproductions from Queen Hatasu's temple at Deir el Bahari, published by the Egypt Exploration Society. So Maspero had these young active Egyptologists as well as the veteran Brugsch to aid him in the heavy task of arranging and cataloguing the new museum of antiquities. Brugsch has been thirty-nine years in the service, was the colleague of the great Mariette, and is still quite fit and full of work. The task of removing the entire collection from the old dangerous quarters at Gizeh to the splendid new building in Cairo needed all these gentlemen's energies, and was accomplished without a hitch. Maspero works hard himself, and inspires his helpers with his genial encouragement. Within a year he had everything in place, and had written an excellent guide to the museum. This has been translated into English by Mr. and Mrs. Quibell, and is brought up to date and corrected as far as the beginning of the present season. All these are improvements to be thankful for, for the old museum was at a day's journey, had no catalogue, and was devoid of all arrangement.

The new museum is airy, cool, and spacious. But should discoveries go on like those of the last twelve months, it may soon need extension. Mr. Legrain, in charge of the ruins of Thebes on the east side of the Nile, has been meritoriously engaged in the restoration of the fallen columns of the Hypostyle Hall of Karnak for the past two years. This work he is doing with great skill and it will shortly be completed, all done by native labour under his direction, and without mechanical appliances. In fact, he rebuilds as the ancients built, lifting the enormous blocks on inclined planes of sand. Hundreds of willing, trained fellahoon accomplish all this—Legrain himself being always in the thick of the fray.

While the rebuilding of the fallen columns is consolidating, other work is found for the army of boys and men. One locality about 100 yards square had no buildings standing on it, and here, two years ago, Mr. Legrain had found some fine statues lying under the sand and Nile mud. This place was again excavated, and, since December 18, 1903, until the present week, 140 statues or statuettes have actually been unearthed here. These are in excellent preservation, and range from the fifth dynasty till the Græco-Roman days.

The latest discovery gives the date of Ptolemy Soter II. This man's greatest achievement was the destruction of Thebes, about 80 B.C. The unfortunate people had revolted, and their city was besieged, pillaged and burnt. The priests of the great Temple of Amon in their hopeless despair had collected all their most precious works of art (which even the Persians, under Cambyses, had spared) and buried them underground. The Nile has risen over them every season for 2,000 years, but though this destroyed the paint and loosened the gold leaf it did no injury to the beautiful carving on diorite, granite, alabaster, green basalt or blue slate. Not a nose is knocked off, no malicious injury—the oldest are almost the most perfect. I have seen all those that have already reached the museum.

Sir William Garstin happened to be present at Karnak when some of the best were found, and ordered their instant removal to the museum of Cairo, fearing the wily dealer might tempt the workmen to purloin them. There are nearly 100 of these beautiful works lying about the museum as yet unnoticed and unknown, for the great exhibition of St. Louis demanded that Mr. Quibell should be sent there to take care of a few specimens of Egyptian art. Surely a less important official might have gone. The arrangement and labelling of these new acquirements must wait till Quibell returns, as that is his special duty.

I write this at Karnak, where I have spent several days, enjoying the wonderful daily discoveries. While I was there the workers (one might call them divers, for only their heads and shoulders are above the black water) brought up from the depths a lovely statuette of Isis nursing Horus, of the finest eighteenth dynasty work. Her face is beautiful, she wears a coronet of *urei*, and the disk and horns of her heavenly rank rise above all. Then a seated statue of a scribe of the twenty-second dynasty (alabaster, clear as wax). On the back of this is a list of kings which Mr. Legrain says will clear up much that is mysterious of this period. The next day's work produced the *torso* of a king of the fifth or sixth dynasty. The rest of the statue, with his cartouche, is already in the museum. Then two heads, belonging to a triad (exquisite work in alabaster) which was taken out last month, were found and fitted to the bodies. Another interesting figure was discovered. In the museum of Turin, the finest statue known of Rameses II. exists. He wears armour and a very remarkable helmet. The model from which this statue was made has been found and is half life-size. The carving is exquisite and same as the larger work, save in one particular, where an alteration has been made. This is therefore a unique specimen of a sculptor's model. It is carved in green basalt and is quite perfect.

My letter is already too long, but if you can find space for it it will be a gratification to those who take an interest in such discoveries, which are far from being exhausted. The energetic and capable man who has charge of the works deserves, and no doubt will receive, all encouragement to proceed with his labours at Karnak.

THE SILCHESTER EXCAVATIONS.

THE exhibition of the results brought to light during last season, which began on May 15 and ended on October 31, may now be seen in the rooms of the Society of Antiquaries, and will remain open for the free inspection of the public until the end of next week. The area of 100 acres enclosed within the city walls is now, as shown on the map, revealing the main lines and many of the foundations and plans of the buildings, public and private, which were standing 1,500 years ago, and marked the city as an important agricultural and commercial centre of Roman Britain.

Last year was exceptionally unfavourable, and few pits were opened, as they would almost at once have been filled with water. But a considerable space of ground was explored, and the discoveries of old buildings were rather more numerous than in recent years. The area of last season's labours was a triangular portion of the large field which covers most of the southern half of the town, immediately south-west of Insula XXXII., explored in 1902. The southern part of this ground disclosed the foundations of at least six buildings and part of another. Three of these were houses of the corridor type, but did not present any novel features. To the north of these, however, a most interesting discovery was made—one of the most important, indeed, of the whole undertaking. The building of which the foundations were here laid bare formed apparently the principal baths of the town. At no great distance from this—which is termed Insula XXXIII—other baths were found, of which we have previously published descriptions; but these, marked as Insula VIII., were, it would seem, attached to an hotel. But the newly-discovered ones were doubtless the property of the town and intended for the public. The building consists of a block of many chambers, measuring about 145 feet from north to south and nearly 100 feet from east to west. There are traceable the *apodyterium*, the *frigidarium*, the *tepidarium* and the *caldarium*—all the appliances, in fact, of a modern Turkish bath, with the addition of a room for the anointing of the bather. The interest of the discovery is enhanced by the evidences of successive alterations and enlargements. The rectangular end, for example, of one of the largest rooms was replaced at a later period by a circular apse. It would appear, too, that on the south there had been a subsidence leading to the destruction or abandonment of rooms and the substitution of other accommodation. The plan on the walls distinctly marks the several stages and changes. In these baths several interesting architectural fragments were found, including a small altar, which had apparently been cracked by fire, and portions of capitals and bases. The most remarkable of these were parts of a large basin of Purbeck marble 5 feet in diameter. It was sunk in the floor of the *frigidarium*, with a considerable hole in the middle. Its uses are conjectural, but it may have been for a shower-bath. It would seem that the inside of the basin sloped upwards, but the pieces have been so extensively eroded by time and weather that precise reconstruction is not now attainable The whole basin may possibly have been one block of Purbeck. This basin is a rare accessory of Roman baths, the only other one of the kind appearing to be at Cilurnum, in Northumberland, on the Roman Wall. A number of bricks were also found, which lay on their edges as flooring for kitchens or offices, and are in a good state of preservation. The miscellaneous objects include some large blocks of stone and metal and a good many coins, and some rather interesting specimens of painted wall-plaster. The search for remains of plants and shrubs in the filling in of the pits and wells, which has been pursued with much success for the last six years, has been continued by Mr. A. H. Lyell, and the results examined by Mr. Clement Reid, F.R.S., who has identified the seeds of several more plants not hitherto known to have been introduced into this country so early as the Roman period.

The committee propose during the current year to continue last year's excavations northwards and westwards with the object of completing the courtyard of the public baths and other unfinished works. The accounts show an income of 403*l.* 18*s.* 2*d.*, including subscriptions of 359*l.* 18*s.* and a balance of 58*l.* 13*s* 6*d.* An appeal is made for further funds for the efficient prosecution of the work. Subscriptions and donations may be sent to Mr. F. G. Hilton Price, 17 Collingham Gardens, honorary treasurer; or to Mr. W. H. St. John Hope, Burlington House, honorary secretary. Subscribers and persons interested in the newly-discovered baths who were unable to see them, in consequence of the lateness of the season, when they were fully uncovered, may see them until the autumn, as steps have been taken to protect them, as far as possible, from the weather.

PEWTER AND ITS REVIVAL.[*]

THE causes of the decline of the pewter manufacture in England as on the Continent were mainly the competition of cheap earthenware for table and other domestic use, followed by deterioration of quality and design and consequent loss of influence on the part of the English Pewterers' Company. The guild had for centuries maintained by rigid enactments the high quality of English pewter, both for home consumption and for export, and these enactments were enormously aided in their enforcements by the company's right of search. During the troubles of the great Civil War, however, this right fell almost into desuetude; and after the Restoration the company found that it is much easier to maintain a privilege than to reimpose one when once practically abrogated. The right of search was felt to be unsuited to the spirit of even that age, and the company never succeeded in getting it legally recognised again. Possibly, as has been suggested, the authorities were indisposed to bring the question before the courts of law, as in the case of an adverse decision the right would definitely cease to exist, whereas, by leaving the matter unsettled, it might be once more established should a favourable opportunity arise. It is probable also that the practice which had existed from early times, of admitting into the fellowship of the guild members who were not connected with the craft, became more and more common, until many of the influential so-called "pewterers" had ceased to possess any real business interest in the trade, with the inevitable result that the main object of the existence of the company was neglected.

Efforts, however, were made from time to time to revive the declining industry, but slowly and surely the products of the potteries ousted the plates, dishes and vessels of pewter, whilst the art of plating inferior metals with silver displaced the old pewter dish covers, cruets, salt cellars, drinking cups and the like, until at last even in the village inns and hostelries the electro-plated tankards displaced the pewter pot. This last fact is significant, since good judges of malt liquor never lost the tradition that ale or stout was of better flavour when drunk from what was called "its native pewter." Thus the once flourishing craft of the pewterer degenerated to the production of some few mere utilities, such as lavatory fittings, public-house bar appliances and plumbers' requisites. Although exclusive reference has been made to English pewter, we must not forget that the pewterers' craft embraced Scotland, notably Edinburgh, as demonstrated by the "Tappit Hen" and "Christening Tankard," which examples, by the courtesy of Mr. Walter Churcher, are, with others from his collection, here for our inspection this evening.

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[*] From a paper read by Arthur Lasenby Liberty before the Applied Art Section of the Society of Arts.

Great numbers of old touches or makers' marks have come down to us, but it is, unfortunately, the fact that no register of them exists, and unless the name is mentioned they are therefore difficult to identify. Much interesting information from the collector's point of view has been written on the subject of marks, but it will suffice for the purpose of this paper to say that no piece of pewter was allowed to be sold without a mark, and that this rule extended to the pewter mountings on stone jugs and tankards, and it is thought probable that the crowned "Rose" mark was, in some measure, the official "touch" of the Pewterers' Company, being one of their armorials, while the double "f" was a penal mark sometimes affixed to the work of a member who had been found guilty of malpractices, and signifying, as it did, false, the result commonly was his being obliged to join the ranks of the journeymen of the craft.

And now I must refer to the alloys and the process of actual manufacture. It is still questionable, I believe, what were the precise alloys and the relative proportions used in the manufacture of ancient pewter, and, indeed, down to our own day the word pewter has an elastic meaning. I gather, however, that some among the old examples show a large admixture of lead, as, for instance, a vase-handle of the fourth century of our era, dug up in Rome, which, according to Bapst, was assayed in France early in the last century and found to contain about three-sevenths lead, without any trace of copper. This must therefore be considered as of very inferior quality. By way of explanation, it has been suggested, indeed, that tin procured with difficulty from a remote and barbarous region was almost as dear as silver, and that this may account for the low grade of pewter being in use in Rome. On the other hand, however, Mr. Gowland's analysis of varying examples of Roman pewter shows that the question of cost was by no means invariably considered. His results give for what he terms "typical" Roman pewter :—72·36 tin to 26·90 lead, and 70·58 tin to 27·62 lead—that is, to put it roughly, three parts tin and one part lead.

According to Mr. Welch, in the ordinances of the old English craft of pewterers, two qualities of pewter are described, the first of tin with a small admixture (supposed to be about 5 per cent.) of what is called "kettle brass," otherwise known as "peak" metal, the peak metal being a compound of copper with some other metal not definitely ascertained and probably always kept a mystery of the guild. The second quality was originally called "vessel of tin," being a compound of tin and lead, in the proportion of 1 cwt. of tin to not exceeding 26 lbs. of lead. This alloy was afterwards known as "lay" or lead metal.

Some old pieces of the Elizabethan and Stuart periods were assayed two years ago by my friend Mr. Haseler when conducting some experiments on behalf of Liberty & Co, and besides tin he found them to consist of small quantities of copper with traces of antimony, the latter probably being added for the hardening and cleansing of the other metals. These pieces were of what is known as the old first quality of pewter. We have seen that the craft always guarded most jealously the good reputation which the English pewter held, and that it included the keeping up of the requisite standard of purity in the metal. It was for this purpose indeed that the Pewterers' Company possessed and exercised their peculiar powers. Thus, as has been noted, all tin brought to London was liable to be assayed by the company's inspector before being sold ; and it could be seized and forfeited if of inferior quality, no matter to whom it might belong. It was also ordered (in 1438) that all articles (in accord with a published list) should be of a certain standard weight, thus insuring to purchasers a definite quantity of the metal. This was, doubtless, an excellent rule to prevent fraud when recasting was so constantly resorted to in order to make good the constant wear and tear to which pewter articles were liable at a time when they were used for, practically, all domestic purposes. Thus it was a definite rule that "chargeours" of the largest size were to weigh ¾ cwt. per dozen, *i.e.* 7 lbs. each, and small "bolles" 13 lbs. per dozen.

In the present day, and of late years, many experiments have been made and various modifications have been tried in the composition of pewter, nearly every manufacturer having his own particular formula. For the production of modern pewter goods aspiring to be classed as artistic in design, the inferior alloy containing lead is discarded altogether (except by the Japanese in the manufacture of their antimony ware). And to avoid as far as possible the use of copper, which some consider to have a bad effect on the colour, tin is nowadays alloyed in the proportion of about 5 per cent. of antimony or bismuth, or both. An excess of copper imparts a brownish tint, whilst the use of lead (always, be it remembered, the alloy of the so-called second quality pewter) imparts the well known grey colour tone which, be it acknowledged, has for some of us a decided charm. Still, as we know, if lead is used beyond a certain proportion it renders the pewter dangerous for the use of liquors containing acids, such as beer, wine, vinegar, &c, by reason of the chemical action they set up, the excess lead producing poisonous oxides.

A series of experiments were made some years ago under the auspices of the French Government, which resulted in a law being passed prescribing the proportion of lead which may safely be used, and this was fixed, for France, at 16½ per cent. The old pewterers appear to have had one advantage over the modern in the fact that their lead nearly always contained a small percentage of silver, which (unfortunately for the pewter trade) science has enabled the modern smelters to extract. That is to say, the fascinating lustre which many old pieces of pewter possess is generally ascribed to the presence of this small proportion of silver in alloy. Modern German pewter, as compared with modern English, contains a much larger proportion of antimony, with some bismuth, and gives out when bent or bitten (which the modern English does in a far less degree) the well-known distinguishing crackle or *cri*. Modern German pewter is produced principally in Nuremberg, Crefeld, and Munich. The German alloys have in my opinion, however, the disadvantage of being more brittle than those used in this country, and I refer particularly to those used by the company with which my own name is associated. The alloys used by it are, as before mentioned, the results of careful trials made by my friend, Mr. Haseler, a partner in and director of Liberty & Co.'s works at Birmingham. His endeavour has been to reproduce a metal similar, as far as possible, to the best of the old English pewter, and, in point of solidity, the new alloy is, I believe, unequalled. The exact constituents and proportions used are regarded as a trade secret by my colleagues, as is the case with the composition of the alloy used by our German friends, although both could, doubtless, be readily assayed.

Pewter-work is either cast, spun, or hammered, and the methods of manufacture differ in no essential in the present day from those of the olden times. Most of the old pewter was cast in moulds of brass, which were highly finished inside and fitted with great nicety. But specially prepared iron is preferred nowadays, as higher skill in the working of the more enduring metal has been attained. Pewter can be cast of any degree of thinness, and is turned out of the mould in a state requiring a minimum of work in the finishing process—apart from the inevitable polishing and soldering. In the active days of the Pewterers' Company, the guild was accustomed to purchase, and to have made to order, a large number of moulds, which were let out on hire to its members. The latter, of course, also possessed stocks of moulds of their own, often held in shares by different tradesmen. The reason for this arrangement was the great expense of producing properly made moulds, and by this means the expense was shared by members to mutual advantage. The elaborate pieces encrusted with ornament in relief, produced on the Continent during the Renaissance, especially in the sixteenth century, were cast in a different way, *i.e.* in sand, and in sections afterwards soldered together. These pieces being produced in small quantities, the cost of a metal mould would have been prohibitive, since even for plainer work it was necessary to spread the cost of a mould over a great number of articles. The articles being cast in sand, however, left a finely granulated surface, requiring a considerable amount of extra labour to finish them by polishing and chasing.

One of the most satisfactory pieces of old English pewter, and perhaps the example most frequently referred to, is a large dish in the South Kensington Museum, of which, by the courtesy of Sir Caspar Purdon Clarke, I have been enabled to bring a sketch here to-night. It will be seen that it is engraved with the royal arms and a floral border of simple design, and bears an inscription dated 1662. The engraving on it is plainly but boldly executed, and has the great merit of obtaining that too often ignored quality, namely, suitability. But, as we have seen, the quality of English pewter as far as regards the metal employed was always unrivalled, and the strength and excellence of the workmanship was also equal to the best. In the department of design, however, we have nothing to show in old pewter to compare in elaboration with some of the pieces still existing, the work of continental craftsmen. I greatly prefer, however, the taste of our own workmen who made their platters and bowls almost always plain (and, therefore, more easily cleaned), depending on the shapes alone for the good effect of the cups, tankards and measures. The shapes of our old craftsmen's hollow ware are almost always excellent, and generally far superior to the Classical ewers and vessels produced by the Frenchmen of the Renaissance. Our rivals on the Continent, indeed, appear to have made the great mistake throughout of over-elaboration (for pewter is essentially a homely metal), with the inevitable result of subordination of shape to ornament. Some of the ewers and other vessels made by Briot, who has been called the Cellini of the pewterers, are however dignified in addition to being elaborate. But too many of the show pieces in the museums and private collections by German makers of the Renaissance period are both inferior in execution and absurdly overdone in decoration.

The solder used is still the hard solder of the Middle Ages, made of tin and lead, sometimes with a small proportion of bismuth, and when skilfully done the process insures not only mechanical adhesion, but forms an alloy of itself between the solder and the metals joined. The old pewterers strictly forbad the use of soft solder (*i.e.* solder with too much lead); and although handles of jugs, &c., and the ears of dishes were at one time soldered, an ordinance made in the reign of Elizabeth decreed that in future they were to be cast in one piece. Modern hollow ware is often "spun," as it is technically called, very much in the same way as clay on a potter's wheel. The metal is forced into the shape required by a blunt steel tool on to a wooden "chuck," or block, of the shape of the vessel to be made, and much of the ornament is worked by hand with the hammer and chaser. Some pieces are entirely hammered up from the sheets of pewter, and therefore bear the impress of individuality to a more marked degree.

I now come to the concluding and the more practical side of my subject, the revival of the pewterer's craft as an art industry. And here I would allude to the notable paper on pewter read by Mr. Gardner ten years ago, and the interesting fact that no sooner had the echoes of his words of lamentation died away than the cloud which threatened extinction to the industry slowly lifted, and from that day the erstwhile moribund craft has been struggling back to life. Among the controlling influences tending towards this result, a certain firm, whose name I need not mention, had, shortly after that time, adopted for designs, in silver plate and jewellery, the motif and lines of ancient Celtic ornament. The results proving fairly satisfactory, the question arose, "Why not apply the like forms and designs to the manufacture of pewter?" Thus, rightly or wrongly, the pioneers of the revival of Celtic ornament decided to work in pewter on somewhat parallel lines with silver, and came to the conclusion that nothing is produced by the silversmith which may not, as occasion arises, be made in pewter, but with the distinct proviso that any attempt to imitate the precious metal should be avoided. For pewter, however, only modifications of Celtic forms were used, and these were soon supplemented by floral and plant motives, to which the distinguishing name of "Tudric" was given. This modest effort was, at all events, the first step towards the reawakening of the pewter industry, and up to the present it remains the only effort that has been made in England. It attained some commercial success, and, directly and indirectly, it has been the means of the revival, so far as a revival has at present progressed. But the ideal of modern English pewter, as conceived by its sponsors, aims at more than a commercial success—it aims at a high standard in design, a high standard in workmanship and a high standard in the quality of the metal, and it strives to avoid over-modelling and over-chasing. It would devote attention to shapes being properly adapted to the several purposes for which the objects are made, it would see that the constructive lines be graceful, well contrasted and strong, and that ornament, when used at all, be used with restraint, and grow out of the general design. These excellent intentions, unfortunately, are not always carried out, for faulty and eccentric notes strike out from time to time. These, however, it is confidently believed, are mere accidents by the way, and will doubtless become less and less frequent. The Germans are, practically, the only continental representatives of the modern pewter industry; and they, having observed the new note struck in England, appear to have seized upon the fact that a change in the fashion of their own wares was desirable. So, forthwith, they proceeded to produce what they conceived to be an improvement upon the English work, and translated it into the fantastic motif which it pleases our continental friends to worship as *l'art nouveau.* Still, alongside the foolish and undesirable, it must in justice be admitted that the Germans have recently produced many original and pleasing designs in pewter. I allude particularly to the work of Messrs. J. P. Kayser & Sons, Messrs. Walters Scherf & Co. and Messrs. Lichtinger & Co. The present aim of the German pewterers seems to make for rather different results in certain details than with our designers, the ornament being made sharper and higher in relief, and the excess of antimony or some similar alloy used enables them to execute this kind of casting with great facility. As compared with goods made in this country, the surface manipulation and finish of German goods is often more careful and satisfactory. On the other hand, our alloys are much less brittle, our work flatter and broader in treatment, and thus it will, I think, be found that our designs and methods are more suitable to the capabilities of the metal, and are therefore better calculated to permanently advance the pewter industry.

As for the lines on which to advance, it should be remembered that for historic mansions and houses where the apartments are furnished after the style of the Renaissance, and wherever magnificence is fitting and desired, a rich and sumptuous array of costly silver plate is doubtless in harmony with its surroundings. But for the majority of households I venture to think that pewter is equally desirable for the many decorative adjuncts of refined and restful furnishing, and the more particularly as it can be obtained at modest cost. On this latter point we are continually being told that objects of art should not be regarded as luxuries, but should be easily attainable by rich and poor alike. Everything, therefore, which tends towards the production of useful and beautiful objects at prices within the reach of all classes should be welcomed. And herein, perchance, in these days of culture, are to be found the future possibilities of pewter; for its soft neutral tone and subdued lustre harmonises with any scheme of decorative colouring. Those, too, who object to the use of electro-plate as an imitation of silver may be content to accept equally good forms in solid pewter in its place, whilst those who are already the fortunate possessors of treasures in pewter may contemplate with equanimity the advent of the burglar.

The manufacturer, however, realises that as by a process of natural evolution pewter has ousted wood from the kitchen, so china in its turn has inevitably supplanted pewter. The fact must be squarely faced by him, therefore, that it is useless to reproduce the large majority of those many fascinating forms in old pewter, where the purposes which brought them into being are now attained by the substitution of other and more appropriate wares. For instance, however beautiful their form and patina, it would be absolutely useless to tempt a modern housewife to purchase pewter plates and vessels for tea and table use now that spotless and dainty white porcelain cups and dishes are obtainable at equal or less cost. A recent author tells us indeed that "it is a good thing to rub pewter over with a rag saturated with vaseline," but surely the process appeals to the palate as the reverse of appetising, and is calculated further to emphasise the housewife's objection to pewter for culinary and table use. Then, too, besides the wares made for the service of food and other purposes requiring easy and perfect cleansing, there is a quite considerable range of other things once made in pewter which an altered state of conditions has rendered useless. These also are undesirable for the modern pewterer to reproduce. The author just quoted writes, however, in reference to some of them:—"Among other instances of articles in pewter which have now unfortunately ceased to be made are snuff-boxes, candle-boxes, table fountains and lavabos, or hanging washstands." Now whilst sympathising with collectors in regretting the disappearance of the good work of bygone days, it would be a more helpful attitude for the manufacturer to try to substitute useful objects for the useless ones. Instead of table-fountains and candle-boxes one might suggest the production of electroliers, jardinières and presentation caskets, challenge cups, card trays and a host of et cæteras of the flower-vase order. We have indeed an example of how a similar evolution was brought about by the Japanese metal-workers who, when they found that sword-hilts and their inlaying were no longer required, transferred their attention to the invention of the cheap and clever antimony ware with which they have since flooded the European markets. And this antimony ware, be it remembered, is a branch of the pewterer's trade.

And now we come to the two questions which I have been working up to, *i.e.* (1) Are the pewter wares now being made equal in quality and design to the average work of the best periods of bygone days? and (2) what are the future prospects of pewter as as art industry?

The latest critic on this subject—the writer just referred to—has not one good word for modern pewter. He says:—

"In striving to arrive at 'art' pewter the manufacturers have produced the wrong kind of alloy. It is far too crude and white, and has a meretricious look, besides the fatal fault of almost looking like silver or electro-plate. Another fault is that it is far too brittle and hard. There is no nice feeling in it; it is, unlike old pewter, hard and repulsive to the touch. Again . . . satisfactory designs for pewter cannot be extemporised by any designer, however cunning he may be at catching the public taste—so called—with a gaudy cretonne or a meaningless wall-paper."

Happily, it is needless to add, there are many who hold more hopeful views on this subject, who consider a distinct advance has been made already, and who believe that there is good promise for the future.

It is Proposed to restore the parish church of Threlkeld, near Keswick. The estimated cost is 400*l.*

TESSERÆ.

Roof Pitches.

THE Greeks made their roofs very flat, and placed large antefixes along the eaves so that the roof could not be seen from below, except from a great distance. In the Parthenon the angle is about 16 degrees, the pitch or height at the apex being about a seventh of the width. Roman roofs average about 22 degrees, or a fifth pitch. That the Mediæval builders had no rule is shown from the extreme variety of the height of roofs in their different edifices. In the Lombardic cathedral of Pisa, erected 1063, the roof is about 27 degrees, or nearly quarter pitch. The Norman roofs are seldom more than 40 degrees, or less than half pitch, while in the Early English period they suddenly sprung up to whole pitch—*i.e.* the height equal to the entire width, being an angle of about 64 degrees. They then gradually were less in height till the Perpendicular period, when many roofs were nearly flat, that of Henry VII.'s Chapel, for example, being but about 16 degrees, or as flat as a Greek roof. Now, that this variety was matter of taste—we had almost said caprice—is evidenced by this fact: these examples are all covered with lead, which might have been laid quite flat and yet have been perfectly sound, and all have a stone groined roof below them, which has nothing whatever to do with the upper covering, and which after all is the real roof or cover which protects the building from the weather. Much has been said of the propriety of always showing the roof of a building, and the Gothic architects have been eulogised for so doing. The facts stated above, however, prove this was not always the case. We cannot, however, justify the going out of the way to conceal a roof by false attics, stilted balustrades, &c., and the screen wall at St. Paul's, London, must always be considered a defect in that fine building. Still, a wide expanse of plain roof is as ugly in itself as a bare wall, and we cannot approve of such roofs as some of the modern imitations of Early English work are, where the wall is so low that we could touch the eaves with a walking-stick, and there is three or four times as much roof as wall.

Palimpsest Brasses.

The term palimpsest is applied to those brasses which have been laid down a second time in memory of some person other than the one for whom the plate was originally engraved. Its primary application was to a certain class of manuscripts from which the first writings were scraped or sponged out in order that the somewhat costly parchment might be used by another writer. Palimpsest brasses are nearly all of a date subsequent to the dissolution of the lesser and greater monasteries, 1536-39, when numbers of plates found their way from the abbeys and priories to parish churches. In these cases new figures were engraved and cut from the older memorials, which were turned over and made to do duty once more as new brasses. Out of the comparatively small number of brasses which have in modern times become detached from their slabs, a remarkably large proportion of those of the latter part of the sixteenth century have been found to be palimpsest. At Cobham, Surrey, is the figure of a knight or esquire with a long beard and dressed in armour of about the year 1550; on the reverse is a priest, *circa* 1510, in eucharistic vestments, holding a chalice and wafer. Similarly at Camberwell, in the same county, an inscription to Edward Scott, 1538, has on its reverse another to John Ratford, some half a century earlier. Palimpsests of which both sides were engraved before the Dissolution are rare, but examples occasionally occur. At St. Albans there is one. The side first engraved displays the lower part of a female figure, *circa* 1430, having at her feet a dog with a collar of bells; on the reverse is the similar portion of an abbot in full vestments, *circa* 1490. Such cases can only be explained by a theory of direct theft, the engraver being probably the receiver of stolen goods.

Correspondence

[*The Editor does not hold himself responsible for opinions expressed by the writers.*]

Discussion on Plenum Ventilation.

SIR,—In consequence of the late hour at which this was taken at the last meeting of the R.I.B.A. there was no time in which to reply to the criticisms thereon, but, with the sanction and approval of the President, our reply will be given in the next number of the R.I.B.A. Journal, and until such has been perused we trust judgment may be withheld.—Yours truly,

WM. HENMAN & THOS. COOPER, Architects.
HENRY LEA & SON, Consulting Engineers.

19 Temple Street, Birmingham:
June 13, 1904.

GENERAL.

The King has accepted from Lady Pirbright, in memory of Lord Pirbright, for King Edward VII.'s Hospital Fund, a painting by Benjamin West, P.R.A., entitled *The Sick Man.*

The Action which is to test the right of Sir Edward Antrobus to exact the payment of a shilling from each visitor to Stonehenge is shortly to come before the High Courts. The Commons and Footpaths Preservation Society have offered to purchase the remains for 10,000*l.*, but the offer was rejected by the owner, who asks for 50,000*l.*

The Council of University College, London, have purchased a site of five acres at Hampstead. Buildings will be erected on this site for University College School, and it is expected that they will be ready for use in the course of two years.

A Memorial is to be erected to the late M. Jean L. Gerôme at Vesoul, where the French painter was born in 1824. His father was a goldsmith in the little town.

The Statue of Lord Cornwallis by Bankes, erected in Fort St. George, Madras, in 1797, has fallen into a state of decay, the marble being badly cracked. The Secretary of State for India has been asked to obtain expert advice as to the best measures for its renovation and preservation. The statue has been propped up and protected from the sea air, which is believed to be the cause of its decay.

The Reconstruction and improvement of several of the Paris hospitals will shortly be commenced, for a contract to the amount of 5,000,000 francs is likely to be entered into about the end of the month.

The Southwark Borough Council will again approach the City authorities for sanction to erect a clock tower offered by Messrs. Faulkner on the site of the obelisk in St. George's Circus, and to remove that landmark to an adjacent site.

The Exhibition of the British Art Society, which is being held in the Public Library, Johannesburg, contains in all 260 examples. The Society was recently founded in London to promote and cultivate fine art in South Africa. A Royal charter is anticipated, when the Society will be called the Royal Anglo-African Society of Painter Artists. Among the members are Messrs. R. W. Allan, R W.S., James Aumonier, R.I., Wilfred Ball, R E, W. Lee Hankey, R I., T. M. Hemy, R.I., A. Hopkins, R.W.S., Robert Little, R.W.S., R. Caton Woodville, R I.

Mr. Orrock has presented another water-colour drawing to the Victoria and Albert Museum. It is a view of Rochester by Paul Sandby, one of the early Academicians, and a recognised master in the history of water-colour art.

The Governors of the Newcastle-on-Tyne Grammar school have awarded the following premiums in the competition, for which there were 117 competitors:—First, 100*l.*, Messrs. Russell & Cooper, of 11 Gray's Inn Square, London, W.C.; second, 50*l.*, Mr. Francis W. Bedford, of 22 Old Burlington Street, Bond Street, London, W.; third, 25*l.*, Messrs. Ashford & Gladding, of Educational Chambers, 19 New Street, Birmingham.

Major Tulloch, R.E., has designed a bridge of two fixed spans and one swinging girder which it is proposed to erect over the Arun at Littlehampton, and would allow of the passage of vessels to and from Arundel. The estimated cost of the construction is 15,000*l.*, and, in addition, it would be necessary to pay compensation to the owners of the present chain ferry.

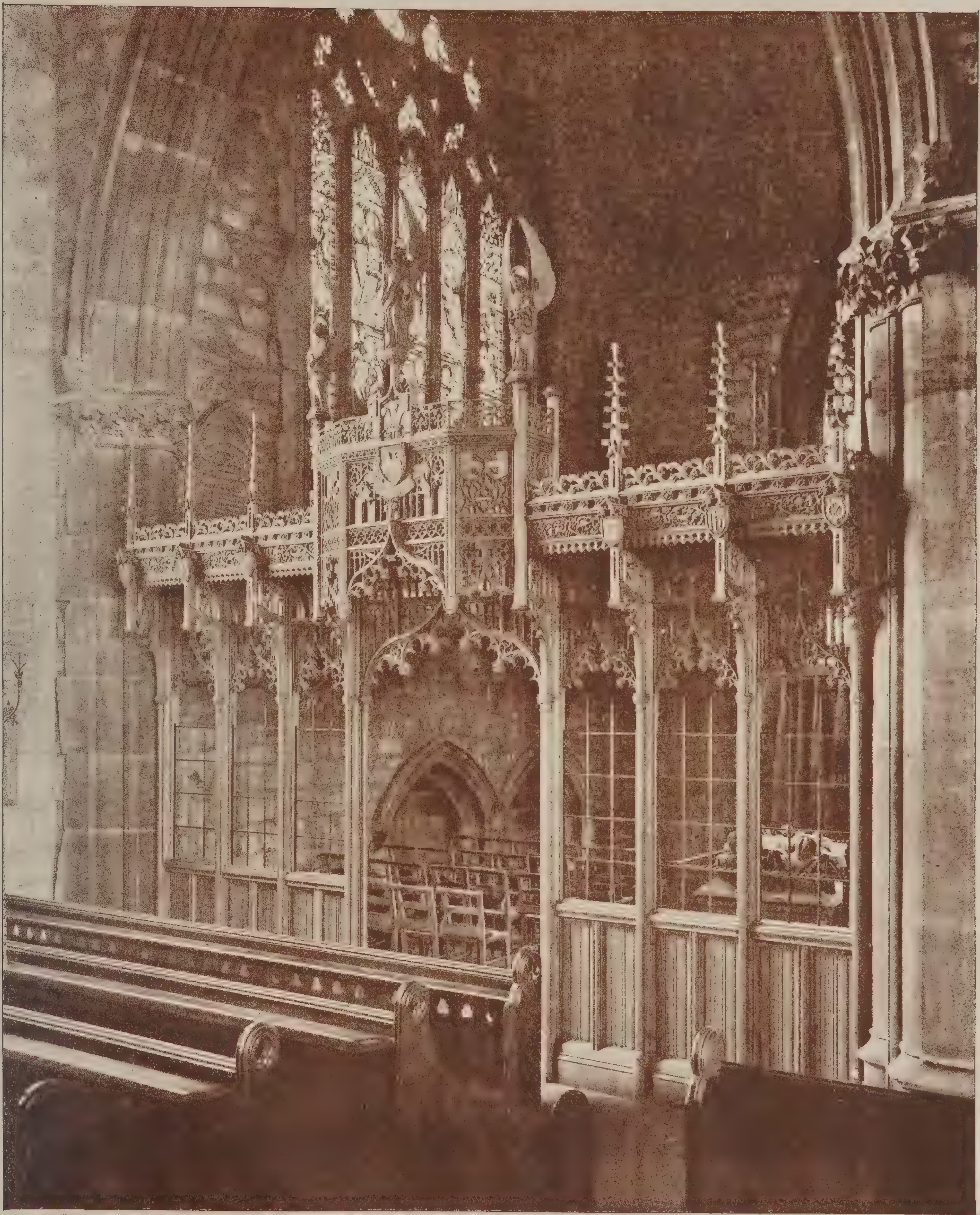
The Beni Hasan Excavations Committee will hold the annual exhibition of antiquities from July 8 to 23 at the rooms of the Society of Antiquaries, Burlington House. The exhibits will include selected antiquities discovered during the past winter season in Egypt, including some of the earliest historical monuments of the country.

Mr. Wm. B. Whittle, architect, announces that he has removed from 196 to 219 St. Vincent Street, Glasgow.

We Regret to announce the death, after a short illness, of Mr. William Cooper, a member of the Council of the Society of Architects. Mr. Cooper was about forty-five years of age, and was elected a member of the Society of Architects in 1891, since when he has taken an active part in its proceedings. At the time of his death Mr. Cooper was a member of the Council and one of the Board of Examiners, and he previously held the office of honorary corresponding secretary.

The Horniman Museum, Forest Hill, was visited by 227,714 people during the 364 days on which it was open during the past year; facilities are now offered to art students to make sketches of exhibits.

The Scarborough Harbour Commissioners have abandoned the proposed deputation to the North-Eastern Railway Company with a view to getting the company to take over the harbour on terms of the expenditure of a quarter of a million for deepening and other works, having been assured that the company will give no financial help whatever.



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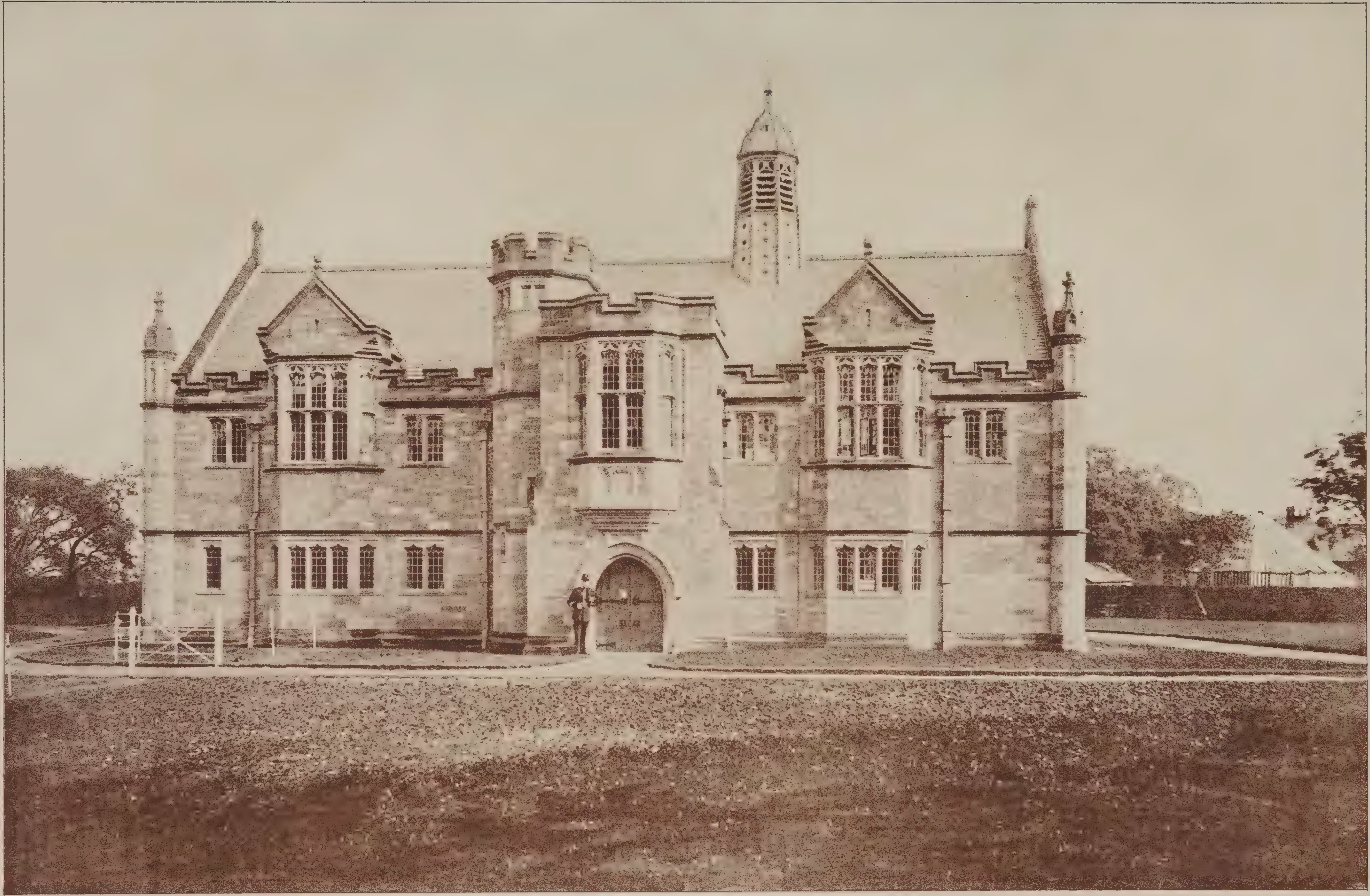
DOUGLAS & MINSHULL, ARCHITECTS, CHESTER

SCREEN TO THE BOTELERS CHAPEL IN PARISH CHURCH OF WARRINGTON.

Erected A.D. 1903 by the Officers, Non-Commissioned Officers and Men of
the 3rd Battalion South Lancashire Regiment,
As a Memorial to their Comrades who Fell in the South African War.



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GLADSTONE MEMORIAL LIBRARY, HAWARDEN: NORTH-WEST VIEW.

LLINOIS

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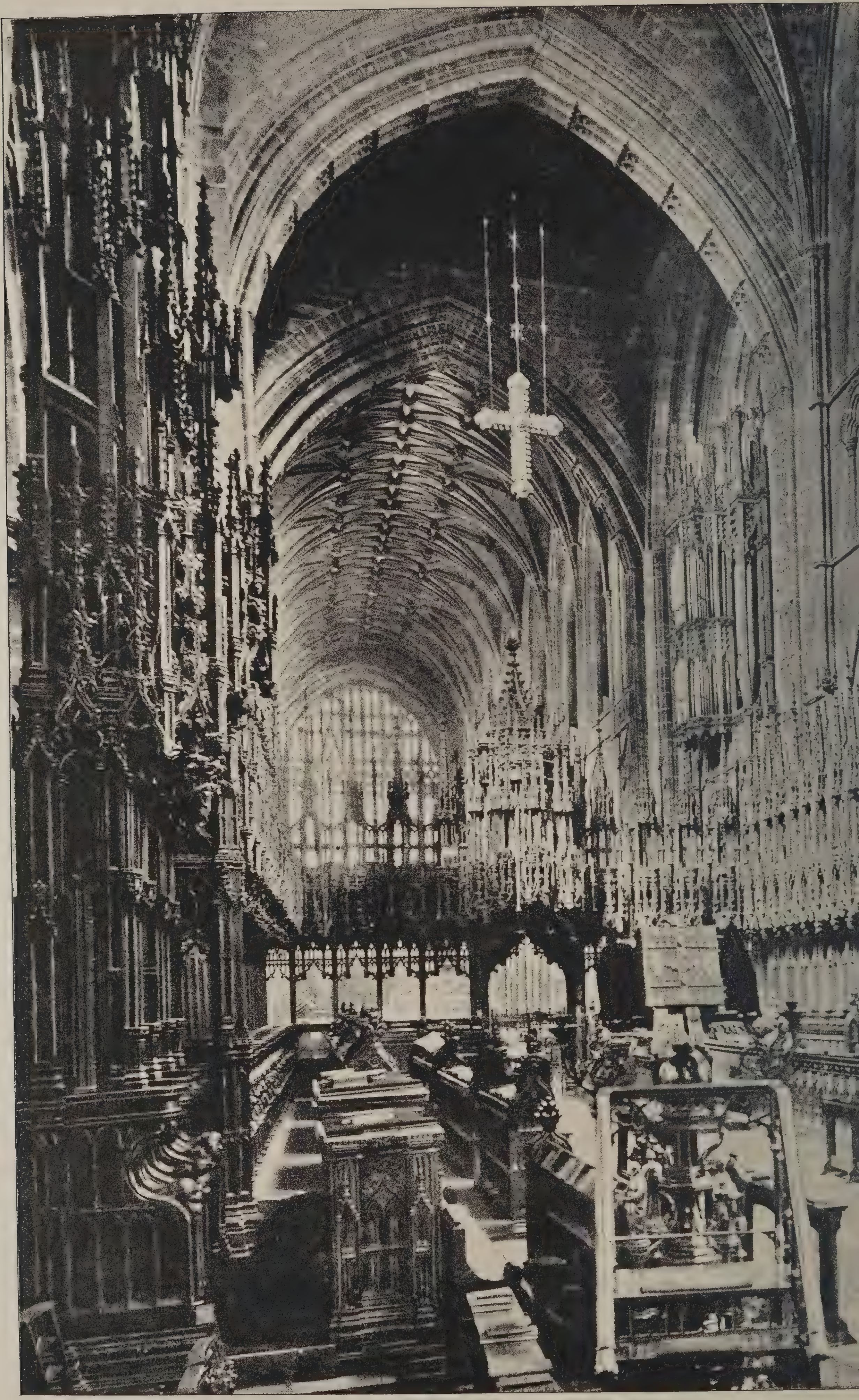

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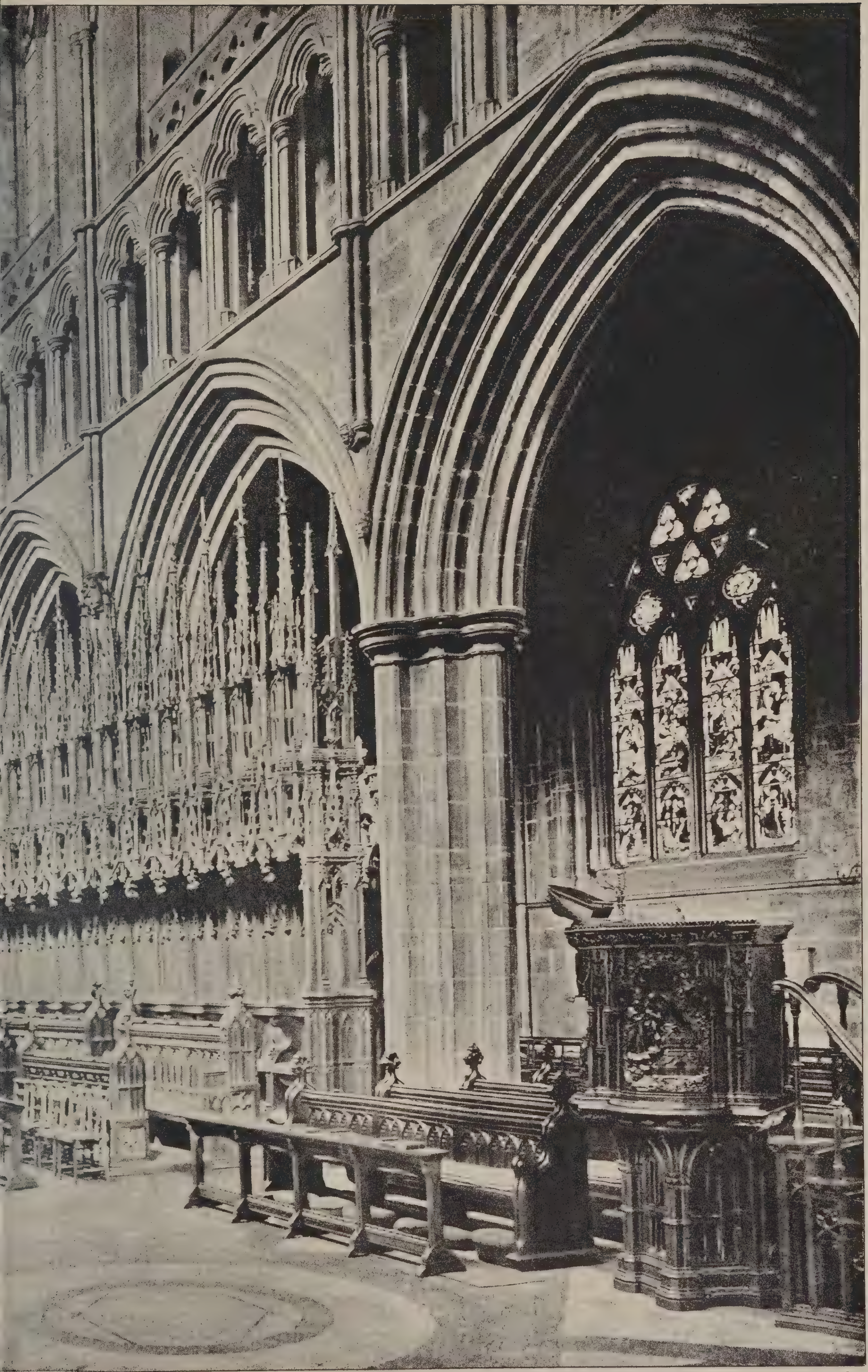
CATHEDRAL SERIES, No. 496.–

Showing Sir Gilbert Sc



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ESTER: GENERAL VIEW OF CHOIR.

Wood Groining to Nave.

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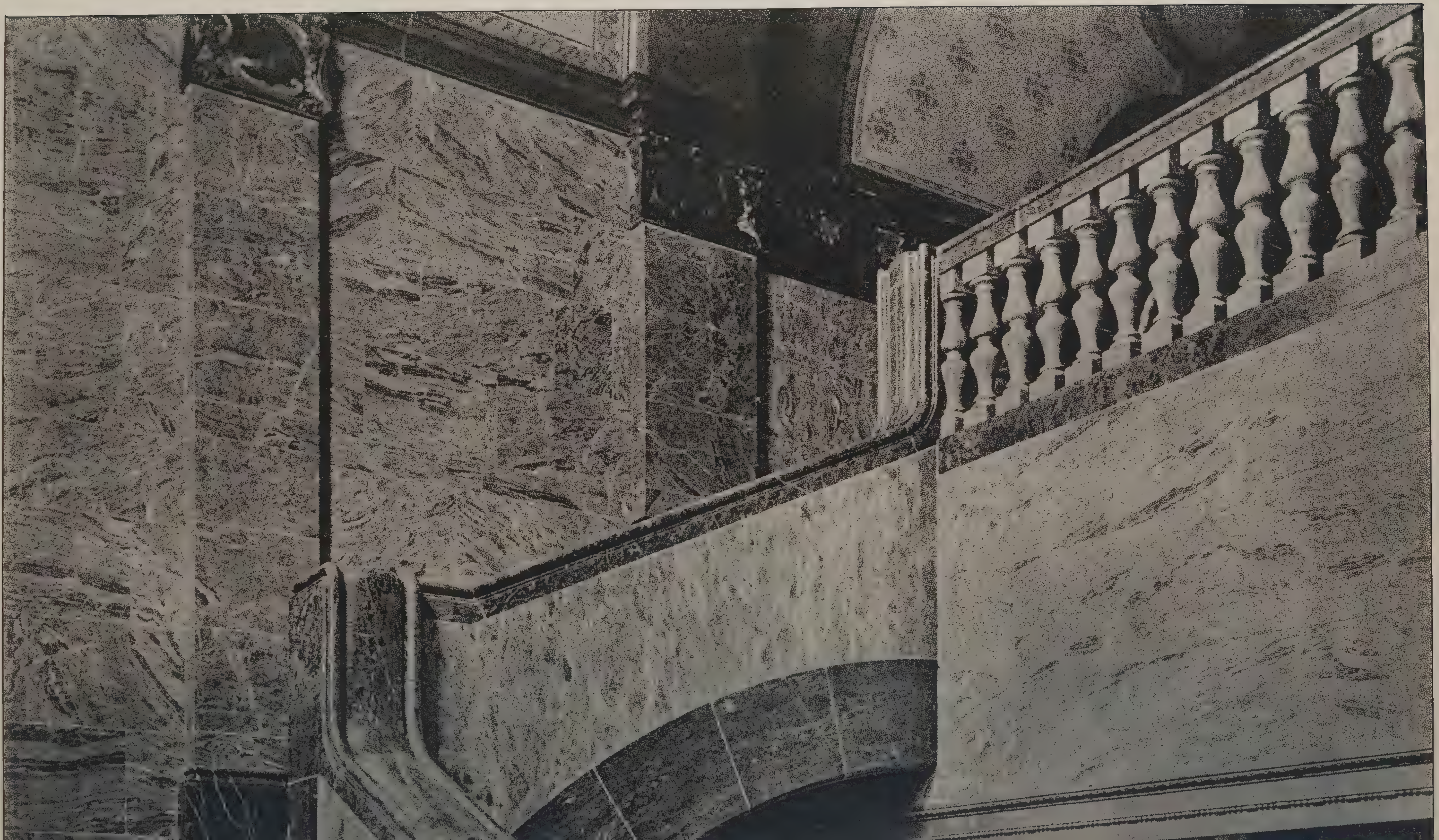

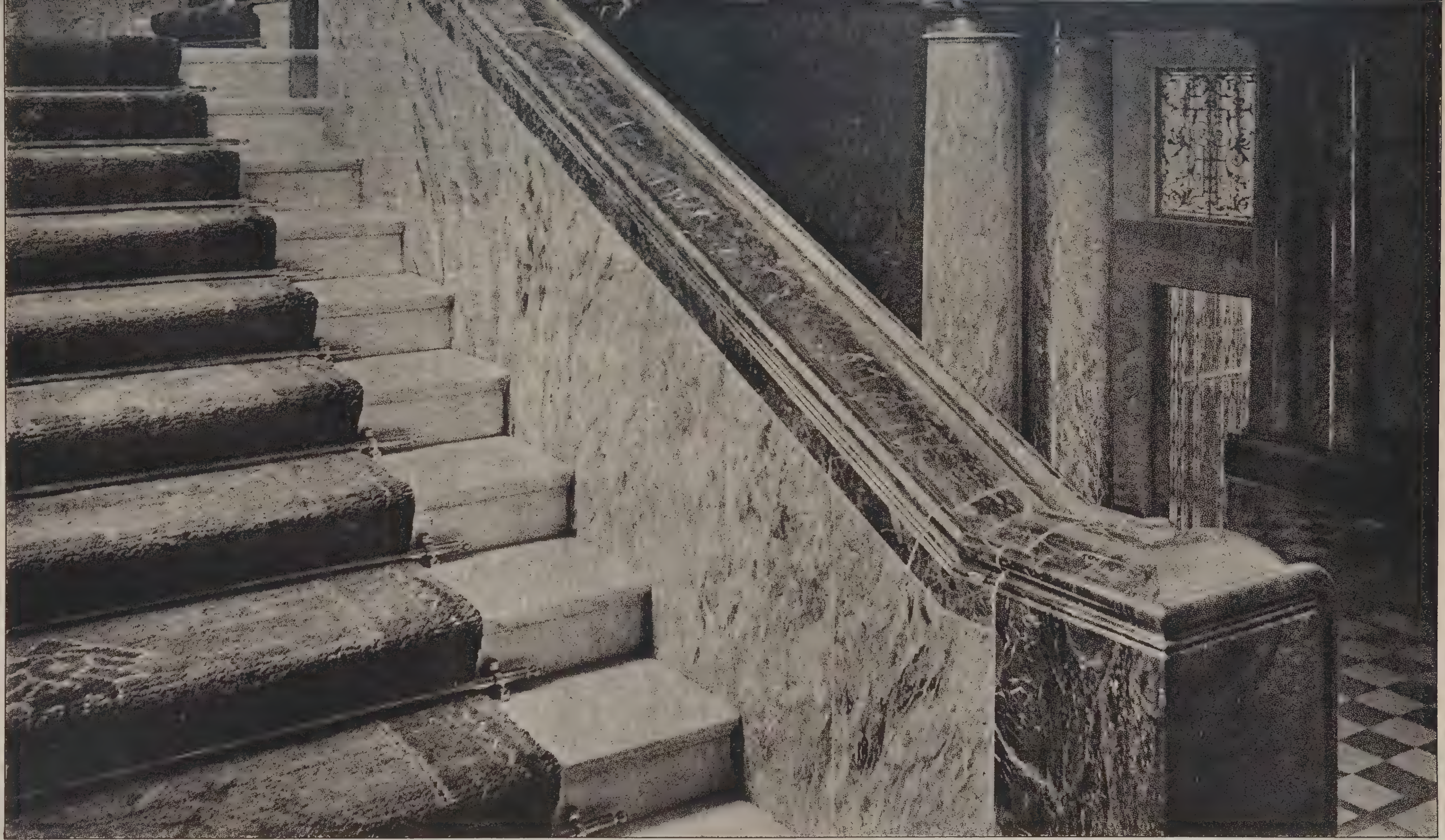

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STAIRCASE: LLOYD'S BUILDING, FENCHURCH STREET, E.C.

T. E COLLCUTT, F.R.I.B.A., Architect

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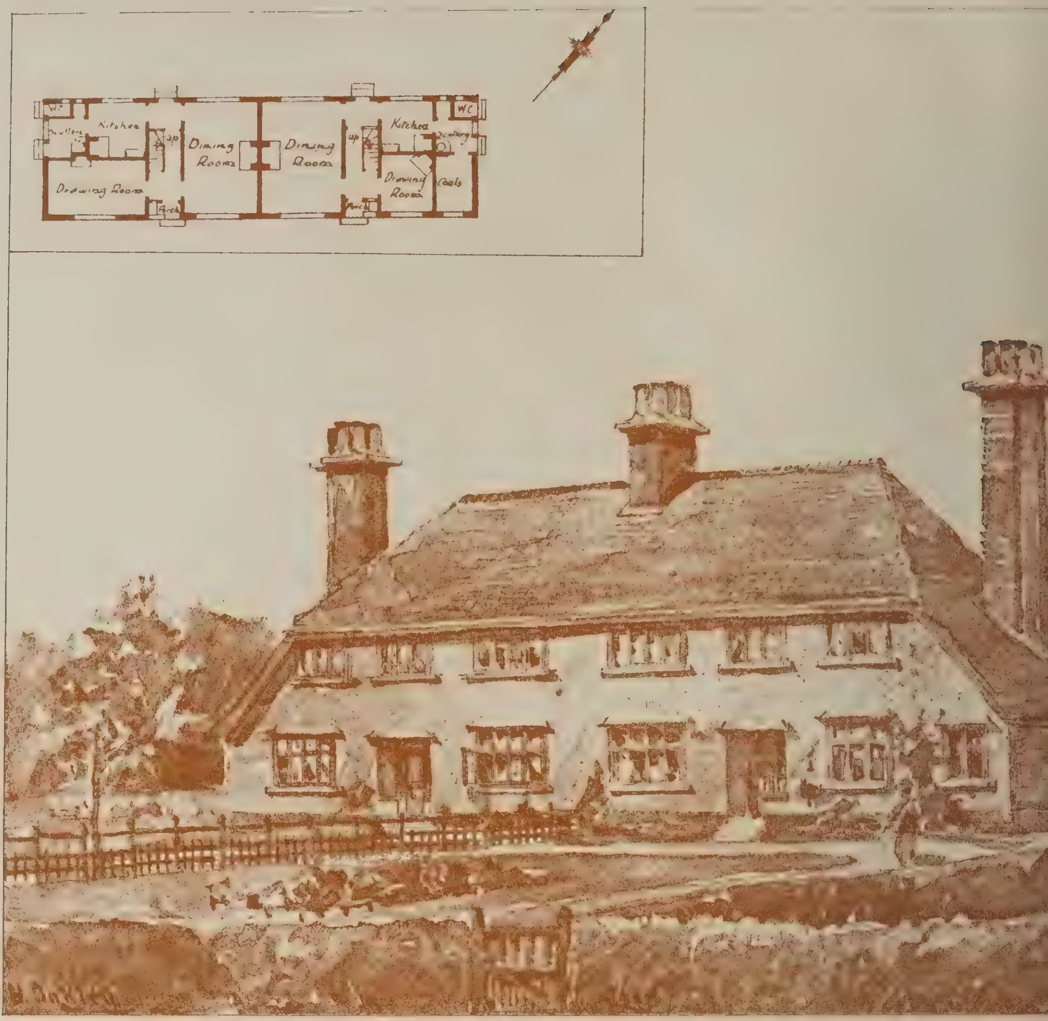
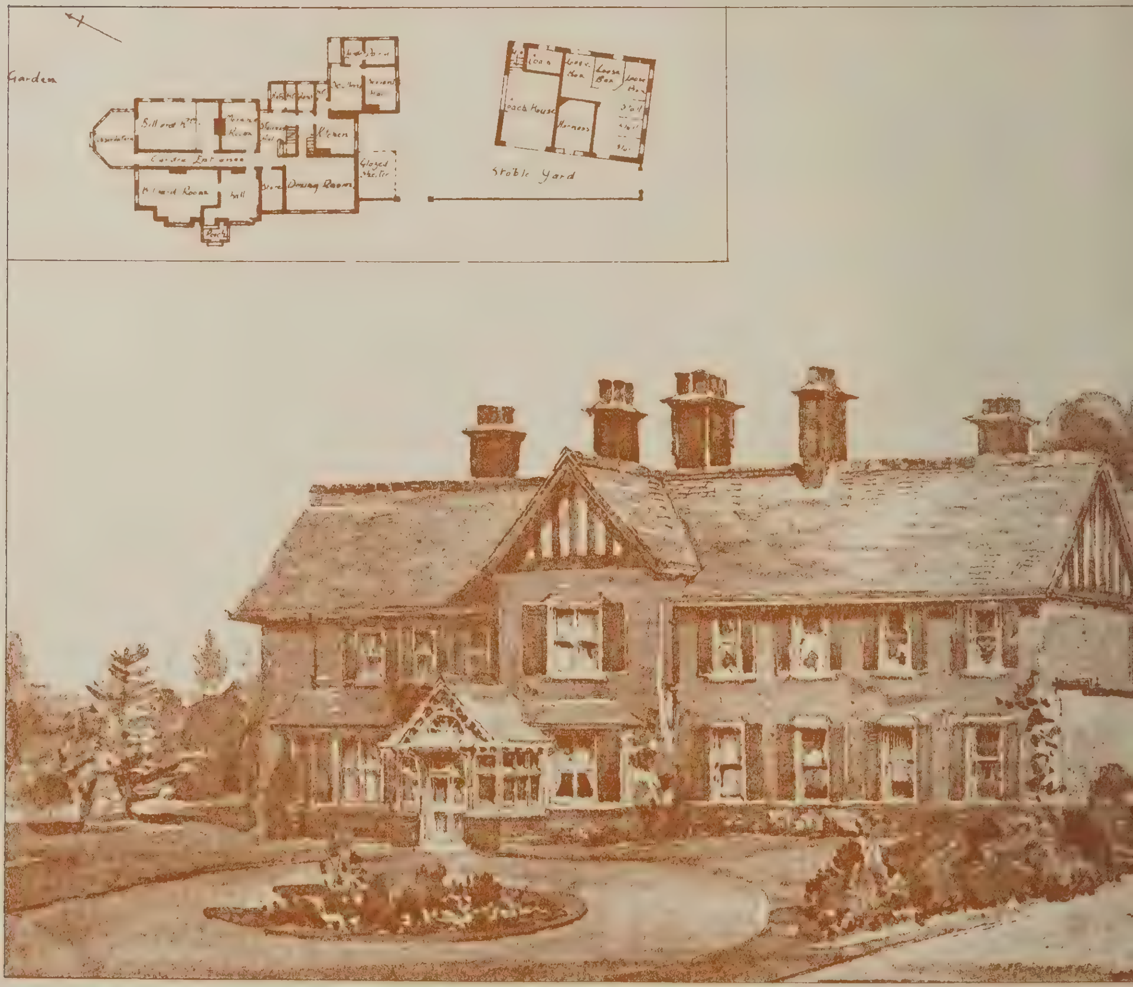


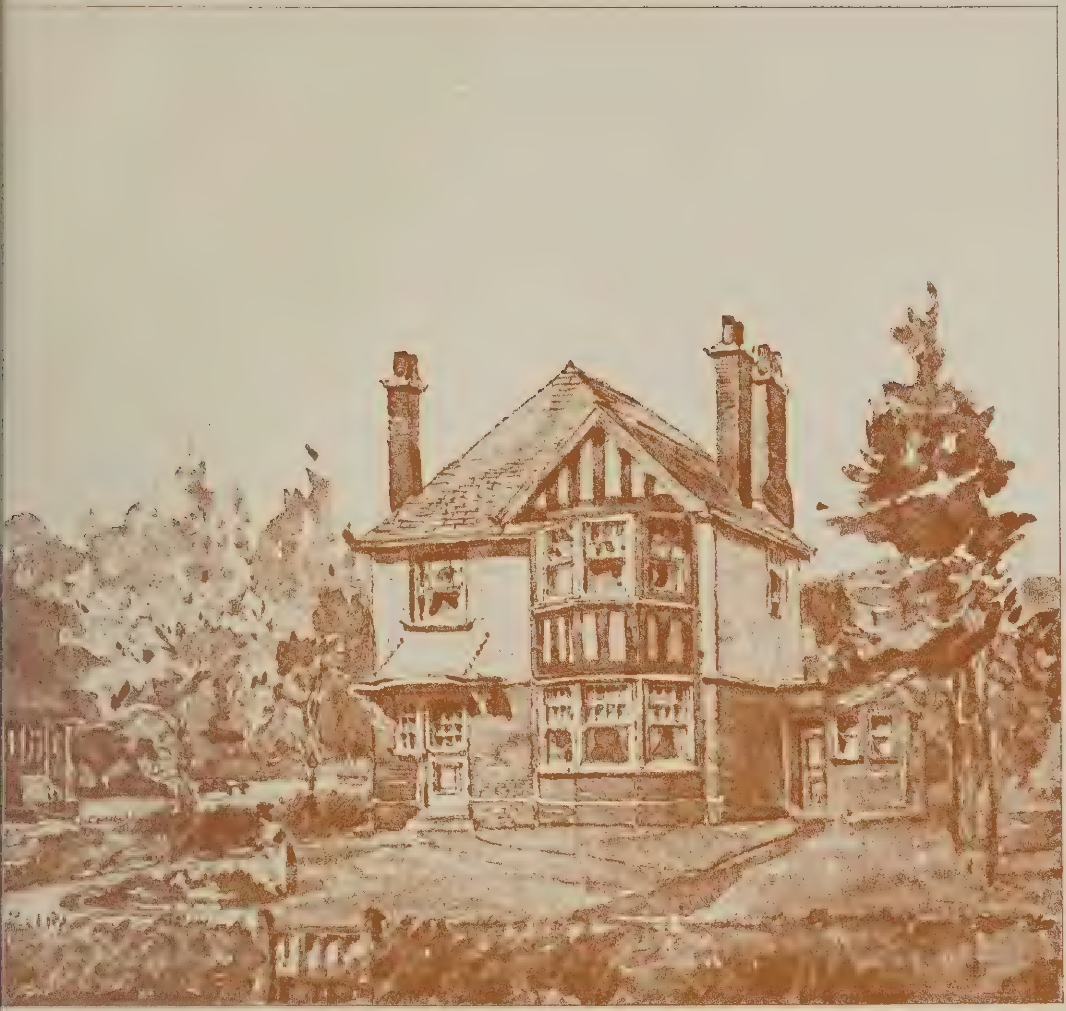
THREE HOUSES, W

H. D. SEARL



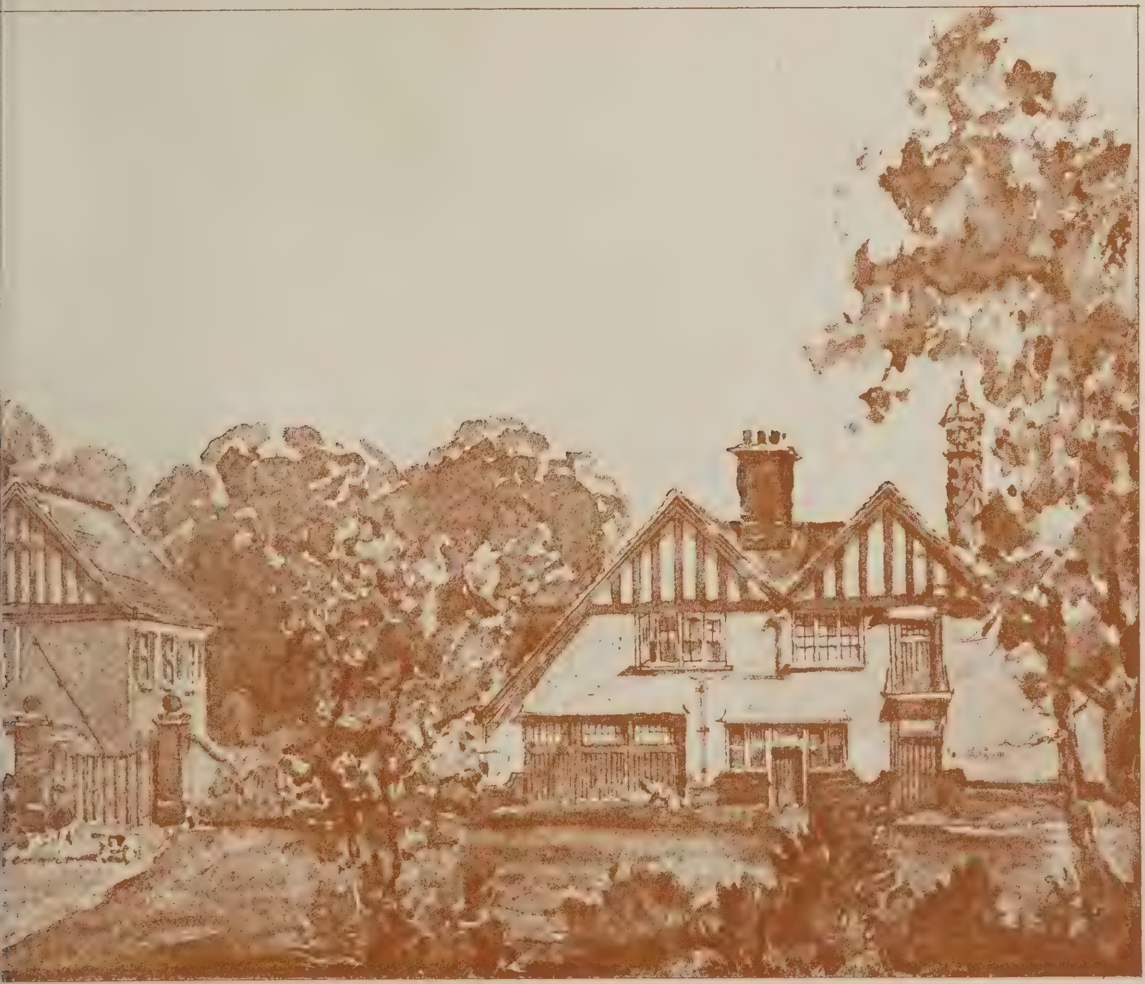
"WALTON LODGE,

H. D. SEARLE



STER PARK, SURREY.

OD, Architect.



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NSTEAD, SURREY.

D, Architect.

The Architect.

THE WEEK.

The position of St. George's Hospital has been often referred to as a proof of the interest which the higher classes can take in the poor and the suffering. To have such a building near the place where fashion congregates is not usual in continental cities. But in this matter-of-fact age sentiment counts for little, and it cannot be denied that the hospital has shortcomings for which the importance of the site offers no compensation. As is usual in such cases, the Governors are divided in opinion as to whether the hospital should be re-erected on its present site or removed elsewhere. On one side it is said that the present site is worth from 12,000*l.* to 15,000*l.* a year as a ground rent, and is therefore too valuable for the purpose. The money obtained by the sale of it would, it is calculated, not only be sufficient to rebuild the hospital on a new site, but leave a substantial balance which could be added to the funds. According to the report of Mr. Percy Adams, the architect, it was estimated that a hospital with 350 beds at about 640*l.* per bed, including medical school and accommodation for increased number of nurses, would cost 225,000*l.*; ten acres of land at 5,000*l.* per acre would cost 50,000*l.*; and contingencies, law costs, &c., would be another 50,000*l.*, making a total of 325,000*l.* A majority of the Governors, however, hold that it is undesirable at present to abandon the existing site. What is more, it has been decided to negotiate with the Duke of Westminster for the purchase of certain leaseholds by an outlay of 23,700*l.* It is denied that the building is not adapted for its purposes, since it is a sanitary, well-equipped and efficient place for dealing with disease and accidents. It is generally understood that a great sum will have to be laid out in enlargements and improvements.

It is creditable to the Germans that in the general desire for novelty prevalent among learned societies they do not neglect subjects which, although remembered by a few, are not generally known. One example was a paper on the triumphal arch of Alphonsus I. at Naples. According to Vasari this remarkable work is due to Giuliano da Majano. But of late years it is ascribed to Pietro Martino, a Milanese architect whose name was unknown to the industrious Milizia. The king died in 1458, and it is supposed the gateway was erected in 1443. It stands between two ancient towers, and therefore looks as if compressed. If allowance is made for position, over which the architect could have had no control, the arch will be found to be one of the most remarkable works in existence. Reproductions of the panels will be seen in various museums. They show the king surrounded by his captains and wearing the armour of the time, and apparently standing in a chamber divided by very thin but elegant Corinthian columns, and with an elaborately coffered ceiling. Above and below are figures of cupids, cornucopias and sea-nymphs, which are intended to suggest the proximity of Naples to the sea, or, it may be, the king's voyage. There are various other single statues suggestive of the greatness of Alphonsus I. The figures are lifelike, and may have all been portraits. But a defect of the arch is its excess of ornament.

In the case of Colls *v.* Home and Colonial Stores, Ltd., Lord Macnaghten said that he had often wondered why the Court did not more frequently avail itself of the power to call in a competent surveyor to report upon the question of ancient lights. There are, as he pointed out, plenty of experienced surveyors who could be trusted to make an impartial report. The Courts have not been slow to take the hint. In the case of Abbott *v.* Holloway an action was brought for an injunction to restrain the defendant from erecting a building so as to obstruct the plaintiff's ancient lights. Buckley, J., suggested that the question whether the proposed building would infringe the plaintiff's lights, and if any infringement were found, the extent to which the plaintiff had been damaged, should be referred to an independent surveyor to be agreed on by the parties, or in default of such agreement to be appointed by the judge.

The venerable M. Wallon, who bids fair to become a centenarian, for he has passed his ninetieth year and is still hale and hearty, must have rejoiced on Saturday when he heard the cheers greeting the announcement at the Congress of the Société Centrale des Architectes in Paris that his son, M. Paul Wallon, was awarded one of the medals by his brother architects. It was a recognition not merely of the merits of M. Paul Wallon's works, but a tribute to the great services he rendered the Société as secretary and member of the Council. As a son of M. Paul Wallon gained one of the Salon's prizes, M. le Grand-père must have felt additional satisfaction. Few men who have had so distinguished a career are as unobtrusive as M. Wallon. As far back as 1840 he was a professor at the Ecole Normale, which was then in its palmy days. He was recognised as an authority on colonial subjects. After a year in the Legislative Assembly he resigned, for he was an upholder of universal suffrage. He has been a member of the Académie des Inscriptions since 1840, and was appointed perpetual secretary in 1873. Under the Empire he refrained from taking part in politics, and devoted himself to the study and teaching of history. He could be reckoned as the most prominent Republican who continued to be loyal to the Church. After the war with Germany he considered it to be his duty to come forth from his study and take a prominent part in politics. He it was who proposed and carried the resolution establishing the Third Republic, an act which by itself would be sufficient to secure him a place in the history of his country. For a time he held the office for which he was peculiarly suited, that of Minister of Public Instruction. He possessed, however, too much sense of measure to approve of all the projects that arose. He therefore resigned office and returned to his favourite studies, with which he continues to be occupied with all the ardour of youth.

We have more than once referred to the endeavours of country gentlemen who wish to erect cheap houses for labourers, shepherds and others. In many cases it is an advantage to be able to move such dwellings, and in consequence economy of construction is not the sole consideration. All the by-laws relating to building recognise structures on stable foundations with walls of a certain thickness, and so on. The humblest class is supposed to have permanent qualities which, as we have said, are not always desirable. Occasionally we hear of cases which are to be brought before the higher courts on appeal; but the expenses and trouble attending law suits have prevented the appellants from continuing the litigation. The consequence is that no decision of the High Courts exists to warrant the belief that a house constructed of corrugated iron, felt and match-boarding is a legal habitation. There is a possibility that such a case will shortly be heard. Mr. W. S. Blunt, who is lord of the manor of Worth, and who is noteworthy on other accounts, recently erected a structure in which iron, match-boarding and felt were combined on his estate. He wished to demonstrate that suitable houses for the agricultural poor could be erected on economical terms. The East Grinstead Rural District Council, however, summoned him for breaches of the by-laws by erecting a building without causing it to be enclosed with walls constructed of good bricks, stone, or other hard and non-combustible material; without giving notice of intention to build; without delivering plans of the building, and that, having erected the building, he permitted it to exist in contravention of the by-laws, notwithstanding written notice from the authorities. There was a good deal of argument when the case came before the magistrates. They declared that the question was most important and intricate, and agreed to adjourn the hearing until after a decision had been given in the High Court. The law at present is undoubtedly on the side of the Rural Council, and the most which a judge of the King's Bench could do would be to order that plans be prepared and lodged in the usual way for the structure, and the Council would in that way have an opportunity for deciding whether they were legal or otherwise. Hitherto it has been the practice in such cases for country gentlemen to ignore the authorities, and to act as if their estates were beyond the jurisdiction of district or urban councils.

CHARING CROSS BRIDGE AND STATION.

If there is any one compound structure in London which can be considered as absolutely friendless it is the wrought-iron bridge over the Thames and the station building connected with it at Charing Cross. The bridge is in an unfortunate position, for a comparison is compulsory between it and Rennie's Waterloo Bridge on one side and Page's Westminster Bridge on the other. The latter is, no doubt, sham Gothic, and is an absurd attempt at the imitation in cast-iron of Mediæval structures in masonry. Yet, with all its defects, it is not so painful to the sight as Sir John Hawkshaw's viaduct. Not even Lambeth Bridge, in the production of which the Brothers Barlow united, and which is probably the ugliest bridge in the world, has been the cause of so many objurgations.

The Charing Cross bridge and station, by one of those mysterious fatalities for which there is no accounting, always comes in the way as the most prominent object whenever visitors take a view of London as seen from this part of the Thames. To many foreigners the mental picture formed of what might be a noble scene is made up by the colossal railway structure in the foreground, with the parts beyond either obscured or reduced to insignificance. It is, doubtless, possible to take a standpoint on the east side of the bridge where the terrible ugliness is escaped. But the majority of people insist on a position on the west side of the bridge, and when they do, one glance is sufficient to render them enemies of it during the remainder of their lives.

If justice prevailed among spectators, whether they be strangers or Londoners, some allowance would be made for so amazing an indifference to beauty. When Parliament sanctioned the construction of the bridge the Thames Embankment did not exist, although something of the kind was contemplated. The whole of the foreshore from Westminster Bridge to Waterloo Bridge was a mass of mud at low water. Hungerford Market was the only place in which it was possible to see beings who were not altogether amphibious. There was no fear of anybody criticising a bridge or a roof which was in keeping with the occasional offices of barge-owners and the dingy lodging-houses in Craven Street. But when the Embankment was completed, a part of the reclaimed land turned into a garden, and costly buildings were erected in the neighbourhood, then the railway buildings and approaches were at once seen to mar the aspect of the new vistas which seemed to be created by the Metropolitan Board of Works. The front of the station was veiled by Barry's grandiose hotel, and an effort was made to conciliate adverse opinion by setting up an imitation of an Eleanor Cross. But whatever was done at one side only caused the long roof to appear more hideous, and it might be said with some reason that one of the causes that kept people from seeing the Embankment was to avoid paining their eyes by the sight of that apparently endless and monotonous monstrosity.

A great many people must therefore have rejoiced when they read of the following motion, which was to be proposed by Mr. Greenwood and seconded by Mr. John Burns, M.P., at a meeting of the London County Council:—

> That, having regard to the necessity for providing additional traffic facilities in London, and to the importance of linking up the Council's northern and southern tramway systems, it be referred to the improvements committee to consult the highways committee and to report at an early date:—1. Whether the South-Eastern and Chatham Railway Company are contemplating the rebuilding of Charing Cross station and the widening of Hungerford Bridge. 2. Whether the Council can be advised to take the opportunity of submitting to Parliament a scheme for the acquisition by the Council of Charing Cross station and Hungerford Bridge, providing the railway company with a site for a new terminus station on the Waterloo side of the river in place of the present terminus at Charing Cross, and erecting for general traffic a new road-bridge of sufficient width and capacity to take a double line of tramway in the centre of the roadway, so that the Council's northern and southern tramways from Aldwych to Waterloo could be linked together. 3. What saving of capital moneys might be anticipated in carrying out such a scheme by the avoidance of the rebuilding of Lambeth Bridge and the widening of Waterloo Bridge and in other ways, and what would be the general result to London of throwing open such an exceptionally fine access between the northern and southern parts of the county. 4. What would be the estimated gross cost of each principal portion of the scheme, the estimated recoupment by disposal of the surplus land and the estimated net cost.

Such a consummation as the removal of the South-Eastern terminus, and the substitution for the present high structure of a low bridge of pleasing design, would be devoutly wished by all lovers of the picturesque. Many offences of the London County Council would be condoned if such a transformation could be accomplished without causing inconvenience. But it should be remembered that after an existence of forty years the terminus has become, as it were, a London institution. The position is one of the best that could be selected, and more especially if we compare it with that proposed somewhere among the slums in the Waterloo district. The site was originally chosen because it was advantageous for a railway which carried many foreigners, and that Sir John Hawkshaw was well inspired is evident from the transformation which has taken place in the neighbourhood. Contiguity to the Charing Cross station has been one of the factors in determining the class of buildings to be found in Northumberland Avenue and for the erection of colossal hotels in the Strand. Various businesses have grown up in connection with the hotels, for in tradesmen's eyes such vast numbers of visitors afford opportunities for business which should be utilised, no matter what may be the preliminary outlay. The removal of the Charing Cross station would undoubtedly have a serious effect on the greater part of the property in the western half of the Strand and in some of the adjoining streets. Enthusiastic lovers of the amenity of London would be likely to hesitate before rejoicing in the revolutionising of the quarter if they considered all the consequences. The most fertile imagination could hardly suppose there would only be a change in position, for around a South-Eastern terminus at Waterloo we are never likely to see the same condition of affairs now to be witnessed at Charing Cross.

It is not to be believed for a moment that the proposals were in the most insignificant degree inspired by a desire to remove one of the objects which disfigure London. The conversion of the London County Council into an apostleship of the beautiful is not likely to occur until the Millennium arrives. The extraordinary project described in the motion has seemingly no other motive than the anxiety to overcome the failure of the Council's system of tramways. Whether there is a real necessity for such communication between the north and south of London, and whether the want is not met by existing and non-official arrangements, we need not inquire. A large sum of money is expended every day within the limits of the Metropolis on travelling, and the London County Council are eager to get hold of it. The Council may argue that as they make the roads they should have any profit yielded by the use of them. There are many objections to the completion of the Council's system which the Law Courts have recently upheld. That may have been disadvantageous to a great part of the public, and it is well to make an effort with which the Courts cannot interfere. But we think it could be accomplished in a more simple way than is indicated in the motion. In order to unite the tramways it cannot be necessary to ruin the business of an important district of the city.

Whatever may be the result of the proposals they must produce an unsatisfactory impression. Owners of property throughout the Metropolis are beginning to learn that their tenure is little more than temporary. At any moment desperate schemes may be brought forward in the hope of retrieving one or other of the failures belonging to the London County Council. To uphold the reputation of the members or of one of the committees property owners are expected to submit to sacrifices unparalleled anywhere else in the world.

In all questions in which estimates are involved the Council have shown themselves as unpractical as if they all belonged to the Skimpole type of humanity. We need not again enter on a criticism of the curious transactions of the works committee during many years, but the public were expected to be silent and sympathise with the little perplexities caused by the figures turning out perpetually several thousands of pounds in excess. Their own experience has not taught the Council to realise their fallibility as estimators. One late instance is afforded in the negotiations with the London, Deptford and Greenwich Tramways Company. The property was considered by the Council to be worth only 53,329*l.* The company claimed 110,514*l.* 7*s.* 5*d.* The referee awarded 91,363*l.* 7*s.* 6*d.*, or 75 per cent. in excess of the Council's estimate. Yet they will not realise that the expert appointed was likely to be better acquainted with the subject than mere amateurs. The Council say:—"We entirely agree with this estimate, and the difference between it and the amount of the award is the more striking having regard to the much greater approximation in the past between the Council's estimates and amounts paid in regard to different undertakings." Is it likely that if the proposal to acquire the Charing Cross station and Hungerford Bridge, and the provision of a new station on the Waterloo side of the river, should ever reach the estimating stage the same peculiarity will arise which has characterised so many of the Council's transactions? Figures have an unruly habit of not acting in the way anticipated in Spring Gardens, and it may be they will exhibit a still greater desire whenever it is necessary to meddle with Charing Cross.

THE LEGAL ASPECTS OF THE TRADES UNIONS AND TRADE DISPUTES BILL, 1904.

By Professor W. S. Holdsworth, D.C.L., Barrister-at-Law.

(*Concluded from page* 397.)

THE first section of the Bill would leave untouched the first of the three propositions in which we have summarised the existing law.[*] It would alter the law contained in the second of these propositions in cases where a persuasion to break a contract was "an act done in contemplation or furtherance of a trade dispute."[†] It would not then be necessary, as it is now, to show that there was some lawful justification for the interference with an existing contractual right. It is more doubtful whether the section would have the effect of altering the law as expressed in the third proposition.[‡] In the class of cases which fall under this category the acts are no doubt acts which interfere with "the exercise by another person of his right to carry on his business, or with the establishment or continuance of contractual relations between other persons;" but the liability is grounded not so much upon the interference as upon the nature of acts in themselves unlawful, by means of which the interference is effected. "What may begin as peaceable persuasion may easily become, and in trades union disputes generally does become, peremptory ordering, with threats open or covert of very unpleasant consequences to those who are not persuaded. Calling out workmen involves very serious consequences to such of them as do not obey. Black lists are real instruments of coercion, as every man whose name is on one soon discovers to his cost."[§] Probably actual threats and coercion will not be legalised by this section. It is acts of this kind that the proviso at the end of the section is probably intended to cover. If this interpretation is placed upon this clause its effect will be slight. It will not empower trades unions to force workmen or others to work only upon such terms as the union chooses to dictate. It will merely legalise such interference with the course of business as may be caused by peaceable persuasion to break existing contracts, provided such persuasion does not amount to a nuisance and is not in other respects wrongful, and provided that the acts of interference occur in contemplation or furtherance of a trade dispute. If any larger interpretation were placed upon the section, if it were supposed to overrule cases of the type of Quinn *v.* Leathem, it would be difficult to attach any meaning to the proviso to the section. And as the Lord Chancellor said,[||] if the law gave no remedy for damage caused by acts of that kind "it could hardly be said that our jurisprudence was that of a civilised community."

The second section provides that "an agreement or combination of two or more persons to do or procure to be done any act in contemplation or furtherance of a trade dispute shall not be a ground for an action, if such act when done by one person is not a ground for an action."

This section enacts for the civil law of conspiracy what was enacted for the criminal law of conspiracy by the Conspiracy and Protection of Property Act, 1875. It is a little difficult to see what result can be effected by the section. The essence of a criminal conspiracy is an agreement of two or more persons which is for some reason unlawful. It is the illegal agreement which is punishable as a conspiracy. One person cannot be indicted criminally for conspiracy. A section therefore which enacted that "an agreement or combination by two or more persons to do, or procure to be done, any act in contemplation or furtherance of a trade dispute between employers and workmen shall not be *indictable* as a conspiracy, if such act committed by one person would not be punishable as a *crime*," has a perfectly clear meaning. But the essence of a conspiracy regarded as a civil wrong is the resulting damage to the person affected thereby. If damage results from the action of one man, that man is liable in an action just as much as if he had acted in combination with others.[*] If damage results from the joint action of several it is conceived that an action will lie just as if the damage had arisen from the act of one person. It would be no answer to say that the acts of A., B., C. and D. taken singly would furnish no ground of action, and that therefore they cannot be sued for conspiracy. Their joint act, if done by one person, would have been actionable, and therefore they will still be able to be sued. This difference between the civil and the criminal law of conspiracy seems to have been overlooked by the framers of the Bill, with the result that the section produces no result at all.

The third section provides that "an action shall not be brought against a trade union or against any person or persons representing the members of a trade union in his or their representative capacity."

This section is intended to override the decision of the House of Lords in the famous Taff Vale case.[†] In that case, contrary to the received opinion, the House of Lords, affirming Farwell, J., and overruling the Court of Appeal, held that a trade union could be sued in its registered name. Before that case was decided it was thought that a trade union not being incorporated could not be sued. The House of Lords, however, held that the Legislature, though it had not incorporated a trade union, yet as it had "created a thing which can own property, which can employ servants and which can inflict injury, it must be taken to have impliedly given the power to make it suable in a court of law for injuries purposely done by its authority and procurement."[‡] The decision really amounts to this, that a trade union is not above the law. The proposed clause would go far to produce this anomalous result. It is said indeed that, if this be the law, part of the funds of a trade union which are subscribed for benefit purposes may be taken, and that the widow and orphan will suffer. The remedy for this is not to put trade unions above the law; it is to separate that part of their funds which are to be used for benefit purposes from the part which is to be used for trade purposes. This course was suggested in 1869 in the report of the Royal Commission on Trade Unions; but it was rejected by the advocates of trade unions on the ground that it would paralyse the efficiency of such unions.

To override this decision is no doubt the chief aim and object of the clause. But the clause itself is quite general in its terms. It may relate also to actions against trade unions by the members of such unions, as well as to actions by the other members of the community.

The position of a trade union in respect of such actions is peculiar. It depends upon the provisions of the Trade Union Act, 1871. Before the passing of that Act all such combinations were illegal because they were in restraint of trade. The members could not hold property or enforce rights to property. They could not prosecute officials who misappropriated their funds. The Act of 1871 provided that a trade union should not be unlawful merely because it might involve a restraint of trade. But the Act expressly disabled the members of trade unions from enforcing their rights *inter se.* "If that had been intended the result would have been this, that an agreement between a number of workmen once entered into, compelling them to work in a particular manner, or to abstain from working in a particular manner, would have been enforceable according to law, and to a certain extent would have reduced some portion of the workmen to a condition of something like serfdom and slavery."* The Courts have held that this clause of the Act of 1871, though it prevents any member from bringing an action to enforce any claim he may have against the trade union under the rules of the union, does not prevent legal proceedings being taken to restrain misapplication of its funds. Such proceedings do not enforce the claim of any individual member to the funds; they simply protect those funds, and thereby compel the trustees of the union to do their duty under the rules of the union.†

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[*] Peaceable persuasion not to enter into contracts with another person is, and still will be, perfectly lawful.

[†] Peaceable persuasion to break an existing contract—persuasion, that is, to interfere with existing contractual rights—would not, under these circumstances, be actionable.

[‡] *I.e.* in cases where persons are induced either not to contract or to break an existing contract, not by mere persuasion, but by coercion.

[§] Per Lord Lindley, L.R. 1901, A.C. at p. 538.

[||] L.R. 1901, A.C. at p. 506.

[*] Giblan *v.* National Amalgamated Labourers' Union, L. R. 1903, 2 K.B. at p. 619.

[†] Taff Vale Railway *v.* Amalgamated Society of Railway Servants, L.R. 1901, A.C. 426.

[‡] *Ibid.* at p. 436, per Lord Halsbury.

It seems likely that this section would override these cases. This would be a small matter beside the exempting of trades unions from any kind of liability for acts which damage the outside public. If the members of trades unions choose to deprive themselves of any remedy for the misapplication of their funds that is their own affair. To deprive members of the public of any remedy for illegal acts done or authorised by trade unions is a very different question. It does not, however, appear in that light to the extreme advocates of trade unionism. Entire freedom from any kind of legal restraint appears to be the object at which they aim. In the minority report of the Labour Commission which reported in 1894,‡ it is said:—"One proposal made to the committee by several witnesses appears to us open to the gravest objections. This suggestion is that it would be desirable to make trade unions liable to be sued by any persons who had a grievance against the action of their officers and agents. To expose the large amalgamated societies of the country with their accumulated funds . . . to be sued for damages by any employer in any part of the country, or by any discontented members or non-unionists for the action of some branch secretary or delegate, would be a great injustice. If every trade union were liable to be perpetually harassed by actions at law on account of the doings of individual members; if trade union funds were to be depleted by lawyers' fees and costs, if not even by damages and fines, it would go far to make trade unionism impossible for any but the most prosperous and experienced artisans. The present freedom of trade unions from any interference by courts of law—anomalous as it may appear to lawyers—was, after prolonged struggle and Parliamentary agitation, conceded in 1871, and finally became law in 1876. Any attempt to revoke this hardly-won charter of trade union freedom, or in any way to tamper with the purely voluntary character of their association, would provoke the most embittered resistance from the whole body of trade unionists." §

It will be clear that the two grounds upon which proceedings can be taken against trade unions are here confused. But it cannot be too much insisted on that between proceedings by members of the union to enforce the proper application of the funds, and proceedings by members of the public to get damages for illegal acts done or authorised by the trade union, there is no analogy. To allow such proceedings by members of the public does not interfere with the "voluntary character of the association." It simply compels such associations to obey the laws to which all citizens are subject. If the necessity to obey the law renders their existence impossible, it is better that they should not exist.

The fourth section enacts that "attending at or near the house or place where a person resides, or works, or carries on business, or happens to be, or the approach to such house or place, in order peaceably to persuade any person to do or abstain from doing that which he has a legal right to do or abstain from doing, shall not be deemed a watching or besetting within the meaning of section 7 of the Conspiracy and Protection of Property Act, 1875. This clause is aimed at the decision of the Court of Appeal in Lyons & Sons *v.* Wilkins. In that case it was held that the picketing of an employer's place of business in order to persuade people not to work for him is a "watching or besetting" with a view to compel persons to abstain from doing a lawful act within section 7 (4) of the Conspiracy and Protection of Property Act, 1875. It is easy to see that such "peaceable persuasion" will soon cease to be peaceable. To allow it at all is to provide occasions for breaches of the peace. If the trade union tries to peaceably persuade, why should not the masters? How long will the peace then be kept? The effect of this clause would seem to be to allow explosive materials to be brought together in an inflammable atmosphere.

The effect of the clause will not, however, be quite what the marginal note to the section seems to imply. The marginal note states that the section deals with "the legalisation of peaceful picketing." It will be, however, observed that such picketing only ceases to be a criminal offence within the Conspiracy and Protection of Property Act, 1875. The civil remedy will, it is apprehended, be left intact if a nuisance is thereby caused. "The truth is that to watch or beset a man's house with a view to compel him to do or not to do what is lawful for him not to do or do is wrongful . . . unless some reasonable justification of it is consistent with the evidence. Such conduct seriously interferes with the ordinary comfort of human existence and ordinary enjoyment of the house beset, and such conduct would support an action on the case for nuisance at common law. Proof that the nuisance was peaceably to persuade other people would afford no defence to such an action. Persons may be peaceably persuaded provided that the method employed is not a nuisance to other people."* Such acts will not be legalised by the first section of the Bill, because they will come within the proviso to that clause. Though the substitution of a civil for a criminal remedy is a poor exchange when the party sued is unlikely to be able to pay damages, yet it is some consolation to reflect that the fact that such conduct amounts to a nuisance will be sufficient ground for the grant of an injunction.

The Bill, if carried as it stands, would go far to put illegalities committed or authorised by trade unions beyond the reach of the law. Some of the clauses of the Bill, taken singly, will not, it is true, produce much effect. The third clause, which exempts trade unions from liability to be sued, will amply compensate for any deficiency. A right to sue for damages or a right to get an injunction is of little avail if the person as against whom such right exists is sufficiently obscure. Unless the powerful organisation which stands at the back of these obscure individuals can be reached, there is no practical remedy for illegal acts which may affect most seriously the trade of the country, which may seriously impair the right of the workman to contract freely. It is no new thing that persons and bodies who have but recently acquired power should wish to see that power unlimited. At one period of our history the Crown, and at another the House of Commons, have attempted to place themselves above the law. Such attempts have been defeated, and the law has remained supreme. To exempt any class or body from the law would be more than an anomaly; it would be an attack upon the first principles of the Constitution itself, it would go far to establish a tyranny.

The Bishop of London has dedicated the completed tower of Christ Church, Westminster. The added portion of the tower has been built from the designs of Mr. G. A. Hall by Messrs. Trollope & Sons, at a cost of about 2,400*l*. It is in the Early English style, and gives a finished appearance to the church, which was built sixty years ago from designs by the late Ambrose Poynter, the father of the President of the Royal Academy.

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* Rigby *v.* Connol, 1880, L.R. 14 C.D. at p. 490.

† Howden *v.* Yorkshire Miners' Association, L.R. 1903, 1 K.B. 308.

‡ Before the Taff Vale decision had established the liability of trade unions.

§ The minority report was signed by Messrs. William Abraham, Michael Austin, James Mawdesley and Tom Mann.

* Lyons & Sons *v.* Wilkins, L.R. 1899, 1 Ch. at pp. 267, 268, per Lord Lindley.

THE GENEVA SCHOOL OF ARTS AND CRAFTS.

By Lawrence Harvey, ex-Fellow of the Royal Institute of British Architects.

On May 16 Mr. James Graham, inspector of the Department of Public Instruction of the West Riding of Yorkshire, arrived in Geneva with the following gentlemen, viz. Messrs. Farran (Todmorden), George (Halifax), Gledhill (Dewsbury), Heard (Shipley), Shuttleworth (Skipton), Barber (Batley), Cockburn (Halifax), Butterfield (Keighley), Marples (Huddersfield), Spencer (Galashiels), Swire (Wakefield), Watson (Harrogate), Nicol (Bradford), Wright (Bradford), and one lady, Miss North, of Bradford.

After a general visit to the school your correspondent, who happened to be present, gave the delegates a short lecture in English on the method used in Geneva for the teaching of drawing. Subsequently the delegates selected the special subjects of instruction they wished to investigate. During five weeks they have worked like regular students from 6 a.m. to 6 p.m., with an interruption for lunch from 12 o'clock to 2 o'clock, that is, ten hours a day of incessant work at high pressure. We hope the workmen of the West Riding of Yorkshire will be pleased to hear that the delegates, sent at public expense for the purpose of improving the trades of their county, have well earned their wage. As was explained in *The Architect* of May 13, the mornings from 6 o'clock to 12 o'clock are devoted to art-training, the afternoons from 2 o'clock to 6 o'clock to practice in the workshops for the following crafts: chasing, embossing enamel-painting, stone and wood-carving, wrought ironwork, plaster-casting.

It is difficult to classify the delegates according to the subjects taken up, because every delegate has more or less gone in for studying every part of the school. But it may be said, roughly, that the first five delegates on the list have given their main attention to figure-sculpture, carving, embossing and chasing, the two next delegates to decorative work in relievo, and the remaining eight delegates to colour decoration, embossing, chasing and enamel-painting. The delegates will themselves write reports on what they have seen in the Geneva school, and what they suggest for adoption for the improvement of the schools of the West Riding of Yorkshire. In this account, written for the readers of *The Architect*, I shall not venture to anticipate the reports of the delegates, but will limit myself to giving what I believe to be the reasons of the success of the Geneva school.

In gardening, before beginning to speak of the treatment of plants we have to consider the soil on which they grow. Let us now act in a similar way. For nearly four centuries Geneva has been a great centre of education, whither people came from all parts of Europe. It follows that in Geneva people are accustomed to the idea of studying in schools, and that schools have not to fight against the prejudices which exist in the trade unions of England. In short, a young man who comes out of a technical school at the age of nineteen or twenty will find ready employment in the workshops of Geneva, whereas in most towns of Yorkshire this would not be the case.

The idea of making art teaching and practical training in workshops go hand in hand is excellent from many points of view, but, in my opinion, this would give no very great results if the Geneva school did not possess an exceptionally able staff of teachers. To obtain such a staff Geneva possesses special facilities. The centre of several art-crafts is undoubtedly Paris. Paris stands nearly alone for art-bronzework, such as statuettes and ornaments for fittings and furniture. The French capital possesses the most renowned jewellers and silversmiths, and is held, rightly or wrongly, as the birthplace of fashion and objects of luxury. The material for the staff of such a school as the one in Geneva is therefore pre-eminently to be found in Paris. If we want to get a staff of eminent French teachers in England we are stopped by the question of language, for Frenchmen even beat us in their incapacity for learning foreign languages. Then if we manage to get an eminent French artist over to England, as in the case of Salmson in Birmingham, the English climate soon ends by driving him away. Geneva suffers from none of these drawbacks; although not French, it is French speaking. Then it is perhaps the most beautiful spot on earth, and Parisians are but too willing to exchange the odours of their capital for the balmy breezes of Lake Leman.

The English delegates who have followed the courses of figure modelling are in ecstasies at the results obtained by Professor Barthelemy Caniez. This is more due to the personal power and energy of this teacher than to any special system, for M. Caniez and Professor Lanteri, of the South Kensington Museum, have been together pupils of the same master in Paris.

The teacher of colour decoration and enamel-painting, Professor Mittey, is also a very remarkable Parisian artist and master. Thanks to a wild garden, which has been the delight of all the delegates, M. Mittey gets his pupils to study from nature the plants which form or may form the materials of design. The plants are first studied from a geometrical point of view, their forms analysed from the front, back and side views, their laws of growth and characteristic features examined. Then they are drawn and painted as they stand in the garden in order to get their pictorial effect. These studies from nature are the stepping-stones leading to the study of styles—that is, to the study of the various ways people have utilised plants in ornamentation. That is where the influence of man comes in when making a design. The design is a token of his passions, prejudices, capacities and incapacities, his materials and his tools. Thus prepared the students are ripe to turn to account what they have learnt in nature and in the works of their predecessors for the creation of their own designs.

I may say that all the delegates are unanimous about the incalculable benefit the wild garden confers on the Geneva school, and would very much like to introduce this feature in the West Riding of Yorkshire. But, alas! the climate forbids it.

The main point of interest for the delegates was the practical teaching of the crafts in the workshops. Some went in for wood and stone-carving under the direction of Professor Jacques, for about twenty-five years practitioner to the famous sculptor Carpeaux. But most of the delegates have been allured by the class of metal embossing and chasing. They have found that the work done here is far more refined than anything they have seen done in England. The pupils are evidently being seriously prepared for the trades of jeweller and silversmith. Too often in England the pupils who take to embossing and chasing are mere amateurs who enter on this art as a pastime.

Enamel-painting has found also much favour with the delegates, and some of them have given their time mainly to the study of this art, which they have followed in all its processes from the painting to the baking.

Another craft which has been followed by some of the delegates with the utmost interest is that of the plaster-moulder. The school possesses one of the best plaster-moulders in Europe, and, thanks to his artistic as well as technical talents, prepares from nature admirable plaster models of plant life. What is aimed at in this work is to take the cast of plants in such a way as to obtain the decorative effects of sculptured ornamentation, and to give at the same time a clear example of each interesting feature of the plant. The delegates regret that they cannot introduce these models into England, as the Government of the Swiss Confederation reserves them for the sole use of the Swiss schools.

The delegates have devoted a few days to visiting primary and secondary schools in Geneva. To complete their inquiries I beg to say here that I am informed the Department of Public Instruction of the Geneva State has made drawing obligatory in all primary and secondary schools, even comprising the Classical College, where the sons of gentlemen learn principally Latin and Greek, so that ultimately the whole of the Geneva population, men and women alike, will be able to draw more or less. The kind of drawing is everywhere freehand, according to the principles the writer has explained in his lecture to the delegates, and which may form the subject of some future communication to *The Architect*. The delegates may not have seen this teaching properly carried out in some of the schools they have visited, for many of the old staff of masters in the primary schools are not able to give the instruction in freehand drawing, but in the Training School for Masters the teaching of drawing is one of the main objects, and from this school are taken the masters of the primary schools, so that in a few years the teaching staff will be quite up to the mark with respect to the teaching of drawing.

Lastly, the delegates wish me to state that they are very thankful for the great hospitality that has been shown them by everybody concerned in the school. In particular the teaching staff has been put to a great deal of extra trouble on their account, a service which the delegates wish to be publicly recognised in England, and they acknowledge that, from the head of the Department of Public Instruction down to the smallest pupil, they have found everybody eager to oblige them.

The delegates see the end of their stay in the Geneva school arrive with regret, for they feel that a much longer time would be required fully to obtain the benefits derived from studying in so unique an establishment, and they hope that some permanent arrangements may be made in Geneva for the benefit of directors and masters of English art schools.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE concluding meeting of the session of the Institute of Architects was held on Monday evening last, Mr. Aston Webb, R.A., president, in the chair.

Mr. Alexander Graham (hon. secretary) announced the decease of Signor Pedro d'Avila, honorary architect to the King of Portugal, who was elected as honorary corresponding member in 1900, and Mr. J. W. Brooker, elected as an Associate in 1887 and Fellow in 1892.

Mr. W. J. Locke (secretary), referring to the death of the late Signor D'Avila, said it was a great loss to international architecture. Signor D'Avila was a man with a singular kindness of heart, and he was always ready to do everything he could to advance the interests of architecture in Europe, and attended every international congress of his *confrères*.

The Royal Gold Medal.

The President said: Ladies and Gentlemen,—It is, I think, a happy custom of the Royal Institute of British Architects to wind up its session by the most interesting event of its year, viz. the presentation of His Majesty's Gold Medal, and when (as to-night) the recipient attends in person to receive it the interest and distinction of the occasion is further increased. This medal, as you all know, is given by His Majesty, who graciously allows the Institute to recommend a recipient for His Majesty's approval, and it has become a custom to select one year an English architect, the next a foreign architect, and the third a literary man whose work has made for the advancement of architecture. This year, accordingly, we considered the claims of literary men for this high honour, with the result that the Council and the general body of members of this Institute unanimously decided to recommend to His Majesty M. Auguste Choisy as the recipient of the medal: the royal approval was graciously granted, and M. Choisy is here this evening to receive the medal at our hands. There are no such things as politics recognised in this Institute, but I may perhaps be allowed to say that it is an event of happy augury that our choice should have fallen upon a Frenchman at this particular moment when our relations with that great and illustrious country are so friendly, and also that we have been able to come as unanimously to an agreement on the selection of a Royal Gold Medallist as these two countries have recently been able to do on matters connected with the highest State interests of these two great countries. We are further honoured this evening by the presence of a distinguished representative from the French Embassy in London, Comte de Manneville, placing as it were the official seal of approval of that country on our choice; and I cannot as your President let this occasion pass without expressing on your behalf, and my own, our unbounded admiration for the great band of artists in that country and the works they have produced in all materials for centuries. In architecture we recognise that they are still working on traditional lines, but at the same time in the modern spirit, and the close alliance of architecture, painting and sculpture, as shown in their buildings, fills us with sincere delight and the highest respect and esteem. It is, as you know, by no means the first time that we have recognised the genius of a Frenchman. This medal was awarded, in 1885, to M. Hittorff; 1861, M. Lesueur; 1864, Viollet-le-Duc; 1867, M. Texier; 1876, M. Duc; 1886, M. Charles Garnier; 1892, M. César Daly; but none, I think, have done more towards elucidating the modes of construction employed by the ancients than our guest of to-night, M. Auguste Choisy. I could wish that the honourable duty of laying before you some short account of the work of M. Choisy were in more capable hands than mine, for I can make no claim to archæological learning which would justify me in presuming to review his work. It lies before you on this table to-night—some seven volumes, small in bulk, gigantic in labour, thought and result. The names of these works have made M. Choisy famous wherever interest in such subjects is taken. They are "L'Art de bâtir chez les Romains," 1873; "Le Sahara," 1881; "L'Art de bâtir chez les Byzantins," 1882; "Etudes Epigraphiques l'Architecture Grecque," 1883; "Histoire de l'Architecture," 1898; and "L'Art de bâtir chez les Egyptiens," 1903, together with other smaller works. The first of these great works, therefore, was "L'Art de bâtir chez les Romains," published in 1873; the last, "L'Art de bâtir chez les Egyptiens," which, as one may say, has put a crown to M. Choisy's life work, and was published so recently as last year. In the art of building among the Romans, M. Choisy (and I am indebted to Professor Aitchison and to our secretary, Mr. Locke, for much of this information) first introduced us to the Roman search for an economical method of building vaults and domes. Alberti had already discovered how walls were built by the Romans, but he went no further, and the great marvels of the building of vaults and domes were still undiscovered. He has shown us, amongst many other things, how experience enabled the Romans to abolish the open net-work which kept the green centering in place, and how to adapt a single brick for the thickness of these great vaults of 80 feet span by inserting pieces of a second course to secure the corners at the junction, and by using the rubble or concrete filling in horizontal courses, the means probably adopted to equalise the pressure in the dome of Hadrian's Pantheon; all this is clearly shown in M. Choisy's illustrations. In his art of building among the Byzantines he shows how the Romans, with diminished means, were enabled to build vaults without centering.

M. Choisy's great work, the "History of Architecture," is a masterly exposition of the treatment of a subject from a single point of view. The result of fifteen years' strenuous labour, it is the history especially of architectural construction, from the earliest times to the present. The innumerable line illustrations are nearly all the work of his own hands, drawn for the most part in isometric perspective in the inimitable manner of the French draughtsman. In his art of building among the Egyptians he has developed the theories set forth in the Egyptian section of his history, and concludes his researches into the methods employed for centering their great arches and in lifting their great monoliths. His work on Greek inscriptions contains a series of studies in Greek inscriptions in the arsenal of the Piræus, and the walls of Athens, and the Erechtheum, and a marble slab was discovered with a complete specification for the building of the arsenal. A noticeable point in M. Choisy's work is the clearness and conciseness of his style; for what many would have taken three pages to describe, M. Choisy puts in three lines. From this necessarily brief and incomplete account of M. Choisy's works, you will see that they are not merely historical accounts and records of buildings, but are the result of entirely original research and thought, and are, I take it, intended also to make the reader think out things for himself. They should be especially interesting to us English architects who are about to consider the question of architectural education, especially in connection with construction as the basis of design. For it is on account of these invaluable scientific researches into the history of architectural construction contained in these volumes that we are here to present M. Choisy with the Royal Gold Medal to-night. Perhaps M. Choisy will permit me to give a few personal details of his career. Born at Vitry-le-François, February 7, 1841, he early derived his taste for architecture from his father, an architect; and he was from the first struck by the relation between the scientific study of construction and the art of architecture. He entered the Ecole Polytechnique and studied under Leonee Raynaud. In 1863 he joined the Government Department of the Ponts et Chaussées, where he was for many years engineer-in-chief, but has now retired with the title of honorary inspector-general of the Ponts et Chaussées. After the publication of his first book, "The Art of Building among the Romans," his conclusions were felt to be so startling that, through the medium of Raymond and Viollet-le-Duc, he was sent on an architectural mission to apply the same system of investigation to the architecture of the Byzantine empire. For many years M. Choisy was a professor at the Ecole des Ponts et Chaussées and at the Ecole Polytechnique. In 1870 M. Choisy fought for his country in the terrible war of that time. In 1889 he was elected a honorary member of this Institute. M. Choisy, allow me, on behalf of myself and my colleagues of this Institute, to congratulate you on the production of these epoch-making works and the honours you have received, and at the same time, as President of the Royal Institute of British Architects, to present to you this gold medal conferred by His Most Gracious Majesty the King on the unanimous recommendation of your British *confrères*. I trust that you may long be spared to enjoy the honours which have been the result of your loving and unsparing labours in the exposition of the great art of architectural construction.

M. Choisy began his reply in English, saying :—" I should be happy to express to you my gratitude in the language of your great nation, if I felt myself equal to it ; but, unfortunately, I do not feel competent ; so I shall ask you to allow me to give it in French."

The following is a translation of the remainder of his reply :—

The recompense I have the honour to receive at your hands goes beyond my ambition, and the testimony of the sympathy with which you have accompanied it renders it still more precious to me. The announcement of such a distinction seemed to me like a dream. It was necessary for me to re-read the vote so kindly passed by the Institute and to re-read the supreme sanction with which His Majesty has deigned to approve of it. It was also necessary for me to overcome a deep sentiment of my insufficiency in order to convince myself that by the award of the Royal Gold Medal my name was about to be inscribed in that *livre d'or* in which figure so many illustrious men, the glory of English art, and to be included among that *élite* of artists to whom the Institute extends a fraternal hand without any regard to nationality or distance. It is an admirable trait of this noble and liberal institution to know how to elevate itself above the distinctions of frontiers and schools, and to group in one great family those who are related by the ties of their aspirations and their desires to aggrandise the patrimony of art. As a Frenchman I am doubly proud of the honour I receive. I see in it a new and impressive proof of the frank sympathies which reign between your nation and mine. I likewise see therein a touching consequence of the sentiments that the French nation has warmly manifested towards His Majesty King Edward VII. during a visit that will always be memorable, and which sentiments are also testified by the presence of the worthy representatives of the French Government, whom I am happy to salute in this place. My dear colleagues, if I were not afraid of abusing your too indulgent attention I would have pleasure in recalling some souvenirs which I reckon among my most pleasing, because they date back to some distance and show the relations between the Royal Institute and the man who now expresses his unreserved attachment and his profound gratitude to it. The first place must be given to the memory of the illustrious and regretted Penrose. I ventured before his tomb to recall the respectful emotion that I felt when, owing to his explorations and investigations, I was able to realise the curves of the Parthenon platform, which will remain the imperishable monument of his glory. My first essay was an act of homage to your immortal architect. And to-day the recompense with which the Royal Institute has honoured me is exalted before my eyes when I think that such a man was among the recipients. If the Royal Institute was the promoter of my researches, one of the members whose friendship is dear to me was among the first confidants to whom they were announced. Mr. Phenè Spiers has kindly in your Journal made a charming allusion to those conversations in Athens, where I learnt so much and received such encouragement. There is still another souvenir. When I was almost a child, while looking through my father's library I had the good fortune to meet with the essay by the Rev. Mr. Willis on the vaults of the Middle Ages. It was a revelation to me. It was in such a manner, I said to myself, that forms should be analysed, and in such a way the design express the construction. When I attempted to ascertain the Roman processes I kept always before me as a model of method that paper which was without a precedent, but which at once marks the first and last terms of architectural criticism. In that way from my first essays it was the movement impressed by the Royal Institute that I followed. The impulse was yours, for it is to the Institute that I owe the credit of the works of which it was the inspirer. And now, gentlemen, the honour which you have just conferred on me calls for some return. And I recognise before you the obligations which are imposed on me. As long as my faculties do not betray me I will heartily respond to the encouragement you have given me. I desire to remove the obscurity from some points of that theory of antique art of which Vitruvius is the interpreter. And, in order that I may succeed, I count upon the illumination to be derived from a master for whom Vitruvius is the object of a cult and whose works are a reflection of Hellenism, Professor Aitchison, my eminent and venerated friend. You will pardon me, gentlemen and dear colleagues, for having spoken at such length about myself. But I would have been wanting in gratitude if I neglected to recount what I owe to English influences and to the members of the Royal Institute, who have opened a way for me among those who can sustain and guide me. The distinction which I have just received crowns with an *éclat* that was not hoped for the longest part of my career. Along the course which I have still to run I have less fear of faltering. It will suffice to look upon the Royal Gold Medal in order to recall to my mind that until the end I have serious duties to fill, new efforts to attempt in order to render myself less unworthy of your privilege. Once more, Mr. President and my dear colleagues, I thank you with all my heart.

Professor Aitchison, R.A., made some remarks on the works of M. Choisy, and described him as the Columbus of ancient construction. The publication in 1873 of his work on the art of building among the Romans made a great impression in the artistic world, inasmuch as the work showed a better grasp of Roman methods of construction than that evinced by the researches of Alberti and Palladio at an earlier date.

Sir L. Alma-Tadema, R.A., referred to the great dispute between theory and practice which was so acute in the years when he began work, and still more so in the time of Goethe. Then one thought that practice was practice and theory professional. He was happy to say those days had passed, and theory without practice and practice without theory did not exist. Education was gaining ground, and no theoretical principle could be sustained if it did not support practical experience. It was in that sense that the reasoning of M. Choisy in his books had been so clear and true.

Mr. R. Phenè Spiers also spoke of the value of M. Choisy's works.

At the conclusion of the proceedings, on the motion of Mr. John Slater, a very hearty vote of thanks was passed to Mr. Webb, who this year resigns his office as president

The motion was seconded by Mr. H. H. Statham. Mr. Butler Wilson, on behalf of the allied societies, supported the vote of thanks.

At a special meeting, held prior to the presentation of the Royal Gold Medal, the following resolution was confirmed :—" That the following words be added at the end of the first clause of By-law 3, viz.:—After December 31, 1906, every person desiring to be admitted a Fellow shall be required to have passed the examination or examinations qualifying him as an Associate, or shall be elected from the ranks of the Associates. But in special cases the Council by the votes of three-fourths of such members of the Council as are present and voting at a meeting of the Council shall have power to dispense with such examination or examinations."

THE VALUATION BILL.

According to the "Political Notes" of the *Times*, in view of the objections entertained in certain Unionist quarters towards the Valuation Bill as it stands, the prospect of the measure's passing this session is now extremely doubtful. The latest batch of suggestions for the modification of Mr. Long's scheme comes from the Council of the Surveyors' Institution, who, whilst approving the proposal to make counties and county boroughs the valuation areas, submit that all property occupied by a county council or county borough council should be valued by independent surveyors nominated by the Local Government Board ; that valuation districts of a smaller area than that contemplated by the Bill should be formed where the population is widely distributed ; and that appeals should go to quarter sessions, a Recorder being appointed for each county, whose duty it should be to hear appeals. The Council further hold that the net or rateable value, and not the gross value, should be the common basis for Imperial and local taxation ; that Clause 8 and schedule 2, which deals with deductions for rateable value, are unworkable, and would cause hardships and inequalities ; that the surveyor of taxes should be advisory only ; that the work of reassessment, instead of being performed simultaneously throughout England and Wales every fifth year, should be spread over the quinquennial period ; that the provision for objections to be heard in July, August and September would operate hardly in agricultural districts, inasmuch as these are the months of hay-time and harvest ; and that the notice of appeal should be twenty-eight days instead of fourteen. In conclusion, it is urged that property belonging to the Government, and occupied for them for public purposes, should be valued by an independent surveyor, and rates should be payable by the Government on such valuation, subject to the right of objection and appeal as in other cases, and that the land tax should be levied on the net rateable value, and if the Bill does not so provide it should be amended accordingly.

The Netherlands Government will transform Mr. Carnegie's gift for a palace of arbitration into a foundation, the administration of which will be charged with the task of choosing the plans and supervising the building of the palace.

NOTES AND COMMENTS.

Some years have elapsed since we reprinted Sir Francis Chantrey's will. The conditions were that the money bequeathed by the sculptor was to be allowed to accumulate and then the interest applied to the purchase of "works in fine art of highest merit in painting and sculpture only." They might be produced by foreign artists, but were to be entirely executed within the shores of Great Britain. Chantrey died in 1841, when the prices for works of art of the highest merit were very different from what they are at present. The purchasing was entrusted to the President and Council of the Royal Academy. During the past seven-and-twenty years several works have been acquired which may now be seen in the Tate Gallery. The Royal Academy as an institution is more hieratic than even the Bench of Bishops. Everyone who is acquainted with Academicians is aware that immediately after their election to what has been called "full honours" their whole character has been changed. If, as is sometimes said, we are only created to afford amusement to some higher powers, the airs and graces of Academicians must give rise to more celestial laughter than the tomfoolery of clowns. In order to uphold the dignity the utmost reserve is practised, and it is impossible for any outsider to say by what principles the affairs of the Academy are conducted. No one could suppose there is any dishonesty in the procedure, but the excessive and constant grumbling is evidence that the affairs are not conducted in a manner becoming a public institution. It was therefore a foregone conclusion that when Lord Lytton on Tuesday moved for the appointment of a select committee of the House of Lords to inquire into the administration of the Chantrey Trust there would be no real opposition. All that could be said by the defender of the Academy, Lord Carlisle, was that it was impossible for the Council of the Academy to be other than academic; it seemed extremely natural that the Council of the Academy should prefer academical works to others, not necessarily because they jobbed, but because they believed them to be good. The Academy were supposed to elect to their body, and to hang upon their walls pictures by, those whose work they considered to be best, and they could hardly be expected to pass a vote of censure upon themselves. Such an apology was equivalent to an admission of unfitness for the duty of selecting pictures as representative of English as opposed to Academic art.

The representative architects who appear on the Albert Memorial begin with Hiram or Huram of Tyre, who is said to have realised the visions of Solomon. There is a figure in the memorial which stands for Egyptian art, but there would have been no difficulty in introducing a man, although the portrait would have no doubt been imaginary, who practised architecture nearly 6,000 years ago. He was made the subject of the Harveian oration delivered by Dr. Richard Caton on Tuesday. I-em-hotep, according to Manetho, was the first architect who employed hewn stone; not improbably he built the step pyramid of Sakkara to be the tomb of his Sovereign Tosorthros; he was a writer of the divine books, of which Ebers's papyrus may have been one; he is said, further, to have improved and completed the hieroglyphic script of Egypt; he was an astronomer, and, finally, had great repute as an alchemist and magician. A temple is stated to have been built over his tomb near the Serapium at Memphis, and he was succeeded by a cult of priest-physicians who there carried on his work of healing. His fame as a physician continually rose, until at length he became in popular esteem a demi-god, the son of the supreme deity Ptah. Temples for the worship of I-em-hotep, which were also hospitals for the sick, arose first at Memphis, and then extended to other parts of Egypt. Medical science was cultivated and had advanced considerably in Egypt long before it arose in Greece. In Egypt the evidence of this fact was decisive, and in the writings of the pseudo-Apuleius it was interesting to note that Hermes told the youthful Asklepios of his predecessor, the first inventor of medicine, the Egyptian god I-em-hotep. When, in later times, Greek colonists came to Egypt, they recognised I-em-hotep as a sort of pre-existing Asklepios, and spoke of his temples as Asklepieia. The early connection between medicine and architecture could hardly fail to influence the character of the dwellings. The materials employed were often of a friable nature, and we are not in a position to state with definiteness the peculiarities of all kinds of houses. Nevertheless, judging by the representations as well as by the small models found in tombs, it is evident that sanitation was considered. In Thebes and Memphis, no less than in London, there were a variety of quarters suited to different classes of residents. But we can see that efforts were made to avoid erecting houses too closely, that gardens were common, and those belonging to the rich were of an elaborate character. One painting at Thebes represents the transport of thirty-two trees which emitted perfume from some remote region. The roofs of all houses were flat in order that the inhabitants could enjoy the coolness of the evenings and rejoice in the views of the rising waters. We must not judge of the ancient Egyptians by their modern successors. Their life was more elegant and refined, and the ancient gentlemen could not endure the luxury which would satisfy a modern pasha.

For a great many young French artists June, even if it be rainy or cold, is the most radiant month of the year. It is then prizes are awarded, pictures purchased by various authorities and bourses given for foreign travel. The Académie des Beaux-Arts have the distribution of several. The Prix Brizard, for landscapists, of the value of 3,000 francs, was given to Mdlle. Langevin-Godeby; the Prix Henri Lehmann, value 3,500 francs, for a painter who has not passed his twenty-fifth year, was obtained by M. André Humbert. Then there are the Prix Maxime David (400 francs), for miniaturists; the Prix Meurand (1,000 francs), for young painters of history; the Prix Edouard Lemaître (300 francs), for young landscapists under twenty-five; the Prix Eugène Piot (2,000 francs), for a sculptured figure of an infant from eight to fifteen months. The amounts in some cases are small, but the publicity is valued. The City of Paris has acquired about a dozen paintings from the Salons, and an equal number of pieces of sculpture.

The handbooks prepared by Mr. R. Cochrane for the occasional excursions in connection with the Royal Society of Antiquaries of Ireland form a series of undoubted value. Information relating to remains in out-of-the-way districts of Ireland is not readily obtained in England or America, and in spite of their cheapness the programmes are an excellent substitute for more important treatises. The latest describes the ruins which will be visited during the week's cruise around the Irish coast which started on Tuesday from Belfast, and which will terminate on next Wednesday night. There are descriptions of Tory Island; Inismurray; the coast and islands of Mayo and Galway; Clare, Kerry; Skellig, St. Michael's Rock; the coast from Kenmare Bay to Cork Harbour; Sturkin and neighbouring islands; Cork Harbour and the Great Island, and Baginbun. The descriptive guide is illustrated by a large number of blocks reproduced from drawings or photographs. It is the third excursion by sea undertaken by the Society, and on this occasion about a thousand miles will be traversed.

ILLUSTRATIONS.

CATHEDRAL SERIES.—CHESTER: NORTH-EAST VIEW.

BUSINESS PREMISES, REDHILL.

CARDIFF HOUSE, PARKSIDE, WIMBLEDON.

PARKSIDE LODGE, WIMBLEDON COMMON.

KINGSMEAD, ROYDON, ESSEX.

WROTHAM AND COLDRUM.

WROTHAM was the place selected by Mr. W. T. Vincent for the second summer ramble on Saturday, May 28, of members of the Upper Norwood Athenæum. A very pleasant afternoon was spent under the guidance of the leader (who is President of the Woolwich Antiquarian Society). After the visit to Wrotham, Coldrum and Trottescliffe a meeting was held, over which Mr. W. F. Potter presided, when the following paper was read by Mr. Vincent :—

The Pilgrims' Way.

Throughout its long course from Winchester to Canterbury this so-called Pilgrims' way preserves nowhere better than at Wrotham its native aspect, rural sweetness and romantic charm. Its green and narrow line creeps along the skirts of the North Downs in solitude and peace, carpeted with flowers and sentinelled by yew trees which cling to the chalk hills to-day as they have clung from immemorial time. For although popular lore attributes the origin and motive of this old highway to the pilgrimages made by devout Christians in early days to the shrine of Thomas à Becket at Canterbury, it is more reasonable to suppose that it is of much earlier date, coeval perhaps with the days when this great Weald of Kent was covered with the broad forest of Anderida and the sacred Druids led their train of worshippers to sacrifice at one or other of the mysterious circles which still stand upon the plain. Many hoards of tin and copper have been unearthed by the wayside, leading to the inference that along this road traders from Gaul, and possibly from the Mediterranean, came and went to and from the mines worked in Wales and Cornwall by the ancient Britons; and, even without such evidences, the road itself, as it stands, seems to proclaim its early date, and bear the stamp of primitive purpose in a primitive time. Few will doubt that the Pilgrims' Way is, in fact, one of those old British roads still to be traced in various parts of the country, survivors of the dark and semi-civilised age before the advent of the Romans.

Stone Circle at Coldrum.

Neither antiquaries nor county historians have devoted much attention to this undoubtedly ancient memorial, and although it is probably the most extensive of its kind in the south-east of England, and has even been grandiloquently styled "The Stonehenge of Kent," it is, comparatively speaking, unknown even in the locality which possesses it. This may be in part due to the much better example of a cromlech known as Kit's Coty House, situated 5½ miles due east, and soon to be seen by this Society under the able conduct of our chairman, Mr. Potter. And I may be allowed this opportunity of apologising to him and to you for appearing to anticipate Mr. Potter's object lesson, of which I had not heard when I planned and submitted this day's visit. But possibly the interest which we shall hereafter take in Kit's Coty House may be stimulated and its study advanced by our previous acquaintance with this minor work. There are, indeed, as many as six stone circles, more or less prominent, within a radius of ten miles round Kit's Coty, which perhaps was chiefest of them all.

Stone Circle, Coldrum.

This relic at Coldrum appears to have lain under an overgrowth of brushwood for many centuries. No mention whatever is made of it in the old books, and it is said to have been discovered less than a century ago by the Rev. Mark Noble, the historian of Cornwall, while he was rector of Barming, near Maidstone. After that it again sunk into oblivion for fifty years or so, to be rediscovered by the Rev. Lambert Larking, vicar of Ryarsh, not far away, who was hon. secretary of the Kent Archæological Society.

The cromlech as it stands consists chiefly of two upright stones, the largest being 11 feet long, 7 feet in height and 2 feet thick. The other, which stands parallel to it, is 2 feet shorter, but otherwise of similar dimensions. There was originally an impost lying across the two uprights, as is usually the case, and as we find in the giant trilithons at Stonehenge. But the impost has fallen, and is probably one of the largest of the rocks heaped up below. Excavations made have revealed a man's skull and some other bones and fragments of rude grey pottery.

SS. Peter and Paul, Trottescliffe.

From the sudden and abrupt fall of the land to the eastward we may infer that this spot consisted at one time of a gentle hillock, having this cromlech on its apex, surrounded by a complete circle of stones. At present there are about fifteen of these stones *in situ*, and they form a semicircle 45 feet in diameter. The full number of stones in the circle was therefore probably thirty.

Without presuming to offer any opinion of my own as to the origin and objects of this and similar structures, I may briefly mention the conjectures of more competent observers and thinkers. Some authorities tell us that this was a dolmen or altar; others describe it as a cromlech or sepulchre; some say it was neither of these, but a seat of justice; while a few more reasonably contend that it may have served all these purposes. Here the Arch-Druid may have delivered his judgments, here he might have worshipped and sacrificed to Baal, and here at his death he might have been buried. It would have been to the ancients their Westminster Hall and Westminster Abbey in one.

I have mentioned the fact that due east stands Kit's Coty House, over which at the summer solstice the sun rises and peeps through this aperture, and I may say that upon this fact the surmise has been founded, as at Stonehenge, that the arrangements were associated with sun-worship, probably the earliest of all Pagan rites. But students of antiquity nowadays are careful to divest their minds of imagination, and especially of romance, and it is safest to say, as was said at Stonehenge the other day, that after all nobody knows anything at all about the matter.

I have even seen an attempt to explain the name of this place, "Coldrum," as meaning "Druid's oracle," the *col* being the equivalent of our word "call," and the *drum* traced to the Celtic word *drus*, or the oak, which gave the Druids their name. But translators, like Shakespearean commentators, can prove anything they like.

DURHAM CASTLE.

THE members of the Architectural and Archæological Society of Durham and Northumberland last week visited St. Margaret's Church and the Castle at Durham. The following report is from the *Durham Advertiser* :—

At the latter the president of the Society, Dr. Greenwell, said they would be indebted to Dr. Gee, master of the University, for the history of the castle, introducing the history of the Palatinate, and Mr. Hodges would tell them about the architecture of the castle, a very difficult task. Dr. Gee, he was glad to say, took a very great interest in the castle. He had made a great number of investigations, and gained some very important results. Amongst others, Dr. Gee had upset the idea they had hitherto held that the castle was due to William the Conqueror. It was not until after his expedition to Scotland that William got a firm grip of the northern part of his kingdom. His lieutenant, Cumin, had come down, and was warned by the bishop that the people were in a dangerous condition. Cumin disregarded that, came to Durham, and the people rose. Cumin took refuge in the bishop's house, somewhere towards the west end of the cathedral, and there they set fire to the house, and with one or two exceptions, all perished, either by flame or the sword. Then the castle of Durham was built, in order that the bishop, the centre of a great lordship, which was under the bishop, should be protected. Now, they had always believed up to the present time that William the Conqueror built the castle. Dr. Gee had come to the conclusion that was a mistake. One did not like to give up what one had held for a great number of years, but from what Simeon had placed on record, the castle was built by the Earl of Northumberland, who represented the Crown, for the protection of his earldom and the bishop.

Dr. Gee said his task was simply to give a sort of historical introduction to the architectural and archæological points which would be raised by Mr. Hodges. As episcopal fortress and Mediæval garrison, and in later days as the chief college in the University of Durham, the grand old buildings they were to investigate had a very long story, and in many respects a very disappointing story that still in parts eluded the patient student. He feared that some of his remarks would appear to be revolutionary and subversive of accepted theories in regard to the origin of that stronghold. There was not an atom of proof that a fortress existed there before the time of the Norman Conquest. He believed there was no moated mound such as they had in Durham before the Norman period. This seemed to have been recently proved by Mr. Round. If that great authority was right they might dispense with all idea of such erections in Durham before the Norman Conquest, even if there were any more humble attempts to fortify the position in Saxon days.

The fitful light of early history first touched the plateau on which they stood in 995, when the body of St. Cuthbert was brought to Durham. On more than one subsequent occasion during the next 70 years Dunholm was ravaged by the Scots, and this fact seemed to point to the absence of fortifications on the summit of the hill. At last the terrors of the Norman Conquest fell upon England. A disputed passage in the chronicle of William of Jumièges told them that the Earls Edwin and Morkar fortified a very strong position at Durham. These were the men who led a strong resistance to the Conqueror in 1068, but found it expedient to make their submission before long. William placed the North under the control of Robert Cumin, whom he made Earl of Northumberland. With 700 men the new earl was able to overawe the still rebellious inhabitants and to occupy Durham without difficulty. But the tables were turned next morning, when the Northumbrians massed together and killed the Norman invaders. William was soon marching to the North to put down the formidable rebellion of which the Durham massacre was but an episode. The last Saxon bishop fled at the news of William's approach, bearing with him the relics of St Cuthbert, which fact again indicated the absence of any sufficient fortifications for a plateau which nature had made almost impregnable. But Durham itself was spared whilst the king's forces were employed in other parts of Northumbria. Next year, with Yorkshire subdued, the Conqueror crossed the Tees and began that awful harrying of the district between Tees and Tyne which turned the whole land into a wilderness. Durham had emptied itself when the bishop fled. Whether the Conqueror took the trouble to march to the deserted city they were not told. Had it been necessary to break down the fortifications they would have been informed. At all events, the brand of the Conqueror was burnt deep into the whole countryside, and the reduction of Northumbria was complete. The bishop returned with the relics of the saint about Easter 1070.

In 1071 Bishop Walcher was placed in the See of Durham, which Egelwine had by now vacated. So for the first time a foreigner became Bishop of Durham. In the following year William again came North, carried out a reduction of Scotland, and on his return to England for the first recorded time set foot in Durham. Evidently Durham piqued William's curiosity. Tales had been told of its preservation from sword or fire through the intercession of St. Cuthbert, and here a story which sounded ridiculous, apart from its context, should be placed. William desired to attest the truth of the saint's presence, and experienced an attack of malarial fever, which convinced him that the true relics were there, and that the people of Durham must not be molested. So William left Durham, and it must be confessed that historians had no word to connect him with the royal castle or building in Durham. The building of the castle was, however, soon to commence.

Amongst those who had made their submission was Waltheof, who was advanced to the earldom of Northumberland. Waltheof formed a strong friendship with Bishop Walcher. The earl and the bishop were the two heads of the north country, for as yet there was no palatinate power strictly so called. This friendship was important, because it suggested the building of Durham Castle. In the very same year that Waltheof became Earl of Northumberland he, and not William, founded a castle in Durham for his friend the bishop in order to protect the prelate and his retinue from raiders. Such was the brief note of Simeon of Durham, penned apparently some sixty years after the event, and told all that they knew of the erection of the first castle built upon that spot. Of that castle they possessed the chapel and the mound. What he pointed out now was that the castle had no Royal origin, such as the guide-books, misreading Simeon, had constantly told them, and he was very glad to find himself here in agreement with no less an authority than Dr. Raine. Thus the peculiar character of Durham Castle was stamped upon it at the first. Walcher became prince bishop three years later, when his friend Waltheof died. To his (Dr. Gee's) mind, as at present advised, it seemed certain that Walcher was the first prince palatine of Durham, and there was proof that for the remaining five years of his life Walcher exercised that jurisdiction. Dr. Gee gave one or two transient glimpses of Walcher's castle, and how it was fortified, withstanding as it did the four days' siege of the murderers of Walcher, for, as Freeman said, "The works of Norman engineers were too strong for them."

They now passed on to the time of Bishop Flambard, a great benefactor to Durham. He set up Kepier Hospital and built Framwellgate Bridge, which was outside Durham, strictly so called. He did much for the cathedral, and cleared the Place Green, wrongly called Palace Green. This was the level spot between the cathedral and castle, which until his time had been crowded with buildings, which were a menace to the safety of the hill-top owing to the fear of fire. Flambard built a wall from the north-east angle of the cathedral right up to the keep itself. Simeon, who was an exact contemporary, was impressed by the dignity as well as by the strength that the wall gave to the city. In the shape of a poem Lawrence, who came to Durham in the days of Flambard, gave a full description of the castle. There was the wall running round the brow of the hill. There were three gates in the wall. In the castle itself the lofty keep dominated the whole, and this was bridged towards the massive tower on the north of the fortress. There was a moat separating the castle from the Place Green, and a drawbridge gave access to the southern gate There was a small chapel with six columns, and hard by were rooms for all manner of stores. The courtyard was without buildings, but it possessed a deep well of satisfactory water. He might add here that this well was last year discovered by Mr. Jones. It was finally abandoned in the seventeenth century, and now that it had been cleaned out they could see the reason. It had been tapped in some way so as to be practically useless. He found a reference to a water conduit between the castle and cathedral as early as the reign of Edward IV. To Tunstall was given the credit of carrying out new arrangements for the supply of water in Henry VIII.'s reign, and Cosin, under Charles II., brought the water from Elvet Moor to the cathedral and castle, finally doing away with the well. To return to the twelfth century, Lawrence pictured for them a massive, widely-expanded Norman fortress, which was able to stand a siege of three years' duration, for much of his poem was taken up with the story of its seizure by the usurping Bishop Cumin in 1141, who held it for a time victoriously against the lawful prelate, William de St. Barbara.

In the early days of Pudsey's episcopate a fire destroyed what Lawrance called the castellum—that was, the great fortress tower, and which occupied the position between the present Great Hall and Walcher's chapel of 1072. Pudsey built the Great Norman Hall, which later days had cut up into various chambers. He gave access to it by the magnificent doorway, which a later generation covered up and Bishop Barrington once more displayed. Above the Great Hall Pudsey built the Constable's Hall, for Pudsey held in full the palatine powers which Walcher first possessed and Flambard also seemed to have had. The constableship was bestowed upon a member of the Conyers family, and in that family it became hereditary. He was military commander of the castle, and also a large office-holder in the Palatine itself. They next came to the episcopate of the great soldier-bishop, Anthony Bek. Documentary evidence failed them with regard to Bek's fabric works, but Mr. Hodges would tell them that architectural proof was ready to demonstrate that Bek was the first builder of the present noble hall of the castle. The next great name was that of Bishop Hatfield. One chronicler told them that in Durham Castle Hatfield restored the buildings which had perished or fallen to ruin through lapse of time. Both the Bishop's Hall and the Constable's Hall, with other buildings in the castle, he erected anew. This might be a loose way of summing up extensive alterations, for it was scarcely credible that Hatfield, who became bishop in 1345, rebuilt Bek's Hall or even Pudsey's Constable's Hall. What Hatfield did seemed to be architecturally clear enough. He lengthened the great hall of Bek. He made alterations in the Constable's Hall, and finally he completed another important piece of work in the fourteenth-century keep, which now took the place of the Norman keep described by Lawrance. Hatfield's keep was probably restored and altered by Fox, and continued to hold the summit of the mound until it was displaced by the modern building seventy years ago. Cardinal Langley, bishop in 1406, built the grand gateway at the top of Sadler Street, with the adjoining walls. This splendid approach seemed to have taken the place of Flambard's wall already referred to. Langley's gateway was of massive size and construction, and held the prisoners of Durham until the early years of the nineteenth century. In this goal many generations of prisoners found their lodging, and in all probability in 1569 the prisoners connected with the great rising of the North were confined, as well as many Scottish prisoners, after the battle of Dunbar. Robert Neville, son of the Earl of Northumberland and John of Gaunt's daughter followed Langley and built a new Exchequer house, probably on the site of similar earlier buildings.

But greater works than these were in progress before the century ran out. Fox, the great statesman bishop of Henry VII., came to Durham in 1494, after a period of terrible dynastic upheaval. The Scots were a chief menace to the stability of Henry's throne, and a strong man was needed to hold the northern districts against them. Hence the episcopate of Fox. He concluded peace with Scotland, but in 1497 the sympathy of Scotland was manifested for the Pretender, Perkin Warbeck. By virtue of the king's writ Fox prepared all the men of the bishopric between 16 and 60 years of age in their best and most defensible array. The bishop garrisoned and rebuilt Norham Castle and other fortresses, and at Durham Castle provided a new kitchen and offices, probably for the needs of the soldiery. He completed his work in 1499, a date still to be seen on the buttery-hatch. Dr. Gee referred to Bek's failure and Fox's success in uniting the two crowns of England and Scotland. The United Kingdom of Great Britain was the outcome of Fox's work as a matchmaker; and in Durham Castle his great kitchen still supplied bodily needs. Those present must acknowledge that it was most fitting that Fox should summon all the resources of his cook and butler to do honour to the Princess Margaret of England when she came north in 1502 to meet her husband James IV. of Scotland. No more splendid reception in the castle hall was ever given than the banquet to the bride of the Stuart king.

With Bishop Fox a great deal of the interest of the castle passed away. In the sixteenth century it was no longer the impregnable fortress, rendered secure by nature and by art. Siege guns were now able to batter it down. So they came to a new epoch in its history, that of a Tudor mansion, and they could see the result of some of the sixteenth-century changes. Bishop Tunstall gave the southern gate new doors. The drawbridge, he believed, disappeared. The Norman chapel, which had probably become damp and unsuitable, was supplemented by a new chapel at a higher elevation, and approached by a sumptuous gallery. Tunstall, as they had already seen, also gave a new water supply. In another way, too, the glory of the castle had departed, for under Tunstall, the palatine power was greatly reduced, only to be further depressed by Elizabeth. Bishop Neile took great liberties with the large hall, cutting off a portion of it, which remained a separate parlour until within living memory. To Neile he was inclined to attribute the installation of the tapestry still here. Here Dr. Gee made quotations from the memoirs, diaries and journals which form such a delightful source of original history for the student of the period. In 1638 a bedchamber man extraordinary detailed his journey through the bishopric and his sight of the castle. It was the very moment when Charles, in his first quarrel with Scotland, was taking the field against the Scots, and held a council in the hall in which they were assembled. He might say that that was by no means the only Stuart visit. James had passed through Durham on his way to the land of promise. Charles had been grandly entertained by Neile in 1633, as he was by the venerable Bishop Morton in 1639 In the troublous times that followed the castle was several times the residence of generals on one side or the other. There prisoners were lodged. For a short time the castle was made an annexe to Cromwell's short-lived University or College of Durham. It suffered severely, and when the king came back, and Cosin, a genuine Durham man, became bishop, it was his first care to restore the injured buildings. One interesting point in the workmanship of the castle was the nearly uniform use of local talent. All Cosin's work was carried out, so far as he could trace, by local men. Cosin did much for the castle. He built the large staircase, clearing away a turret built by Tunstall, and cutting into the outer wall of the castle on that side. He enlarged the chapel. He renewed the eastern wall of the courtyard. On the other side he put in what in Butler's days was called the frontispiece, that was the portico of the hall. He also erected the garden staircase. Certain ancient rooms overlooking the river he cleared away, and built the modern rooms now standing. Crewe followed Cosin, and he attributed to Crewe the terrace-making on the sides of the keep. He took it that Crewe filled in the moat with the earth which was scooped out in making the terraces. He placed a fine bell in Tunstall's turret, and this Dr. Gee hopes to restore to its original use, for at present it is silent. Dr. Gee detailed the extensive repairs carried out by Bishop Butler. Bishop Trevor replaced the south wall of Bishop Pudsey. Bishop Egerton made some change in the buildings over the Norman chapel, and built the present Octagon room. Bishop Barrington did something to arrest the decay of the place. Van Mildert seemed to have resided in the castle, and to have exercised hospitality at assize time. He gave a memorable banquet to the Duke of Wellington, at which Sir Walter Scott was present. Soon after that farewell banquet, as it were, to the glories of the past the castle was made over to the newly-constituted University of Durham. The University in its earlier days made one grievous mistake in its plans for the Norman gallery. Their design was to some extent frustrated. That was the University of another day. Their successors of the present generation are only anxious to preserve the historical interest of this fine old castle to the full extent of their power.

Dr. Greenwell proposed a vote of thanks to Dr. Gee, and said that although there were many points he had mentioned which were of a controversial character, he yet hoped that Dr. Gee would agree to his address being put upon a more permanent record, and that it, together with the monograph which Mr. Hodges was preparing upon the castle might be placed side by side together.

After inspecting the seals of the Bishops of Durham, which were explained by Dr. Greenwell, the party proceeded to the Norman chapel, the architectural features of which were pointed out by Mr. Hodges. It was the only part of the castle begun in 1071 remaining in an unchanged condition. A most interesting point was that the floor on which they were standing was the original floor laid down at that time, therefore probably the oldest stone floor in any building in England. Mr. Hodges remarked that everything of which mention was made in the accounts of the castle had been found excepting the dungeon, and they were quite at a loss to say where that might be.

NICHOLAS HILLIARD.

ON Monday the large sum of 2,52cl. was given at Christie's for two miniatures in one locket by Nicholas Hilliard. The subjects were John Croker, of Barton, Oxon, and his wife. Holbein's miniature of Lady Frances Howard lately realised a still larger price, viz. 2,750*l.*; but hitherto examples by Hilliard were not so highly valued, and the event has revived interest in the artist. The following account of him was given by Horace Walpole :—

Limner, jeweller and goldsmith to Queen Elizabeth, and afterwards to King James, was son of Richard Hilliard, of Exeter, high sheriff of that city and county in the year 1560. Nicholas (I suppose a young son) was born in 1547, and brought up to the business of a jeweller and goldsmith, to which his inclination soon added that of painting in miniature. The want of an able instructor directed him to study the works of Holbein, as he says in a MS., "Holbein's manner of limning I have ever imitated, and hold it for the best." But though Hilliard copied the neatness of his model he was far from attaining that nature and force which that great master impressed on his most minute works. Hilliard arrived at no strength of colouring; his faces are pale and void of any variety of tints, the features, jewels and ornaments expressed by lines as slender as a hair, The exact dress of the times he curiously delineated, but he seldom attempted beyond a head; yet his performances were greatly valued. Dr. Donne, in his poem on the storm in which the Earl of Essex was surprised returning from the island voyage, says :—

. . . a hand or eye by Hilliard drawn, is worth a history
By a worse painter made.

And Peacham on Limning says :—"Comparing ancient and modern painters brings the comparison to our own time and country; nor must I be ungratefully unmindful of my own countrymen, who have been and are able to equal the best if occasion served, as old Hilliard, Mr. Isaac Oliver, inferior to none in Christendom for the countenance in small," &c. Richard Heydock too (Wood's "Athenæ," vol ii. p. 296), of New College, Oxon, in his translation of "Lomazzo on Painting," published in 1598, says :—"Limnings, much used in former times in church-books, as also in drawing by the life in small models; of late years by some of our countrymen, as Shoote, Betts, &c, but brought to the rare perfection we now see by the most ingenious, painful and skilful master, Nicholas

Hilliard, and his well-profiting scholar, whose farther commendations I refer to the curiosity of his works."

The same author in another place, mentioning "Mr. N. Hilliard, so much admired by strangers as well as natives," adds:—"To speak truth of his ingenious limnings, the perfection in painting (in them) is so extraordinary, that when I devised with myself the best argument to set it forth, I found none better than to persuade him to do it himself to the view of all men by his pen, as he had before unto very many by his learned pencil, which in the end he assented to; and by me promiseth a treatise of his own practice that way, with all convenient speed." This tract Hilliard actually wrote, but never published. Vertue met with a copy of it, which I have among his manuscripts.

Blaise Vigenere mentions Hilliard and the neatness of his pencil very particularly:—"Telle estoit aussi l'ecriture et les traits d'un peintre Anglois nommé Oeillarde, d'autant plus à emerveiller, que cela se faisoit avec un pinceau fait des poils de la queue d'un escureuil, qui ne resiste ni ne soutient pas comme feroit une plume de corbeau, qui est tres ferme."

Hilliard's portrait, done by himself at the age of thirteen, was in the cabinet of the Earl of Oxford. He was still young when he drew the Queen of Scots. Queen Elizabeth sat to him often. Charles I. had three of her portraits by him: one, a side face in the clouds; another, one of his most capital performances, a whole length of her in her robes sitting on her throne. In the same collection were several more of his works, particularly a view of the Spanish Armada, and a curious jewel containing the portraits of Henry VII, Henry VIII., Edward VI. and Queen Mary; on the top was an enamelled representation of the battle of Bosworth, and on the reverse the red and white roses. This jewel was purchased by the king of Hilliard's son.

In the essay towards an English school of painters, it is said that Mr. Fanshaw had the portraits of Hilliard and his father, finely executed, with inscriptions in gold letters; on the former, "Nicolas Hilliardus, aurifaber, sculptor et celebris illuminator serenissimæ reginæ Elizabethæ, anno 1577, æt. suæ 30." On the other, "Ricardus Hilliardus, quondam vicecomes civitatis et comitatus Exoniæ, anno 1560, ætatis suæ 58, annoque Domini 1577."

Hilliard continued in vogue during this reign, and great numbers of portraits by his hand, especially of ladies, are extant. He obtained still greater favour from King James, drawing His Majesty's and Prince Henry's pictures, and receiving a patent, printed by Rymer, to this effect:—"Whereas our well-beloved servant, Nicholas Hilliard, gentleman, our principal drawer of small portraits and embosser of our medals in gold, in respect of his extraordinary skill in drawing, graving and imprinting, &c., we have granted unto him our special license for twelve years, to invent, make, grave and imprint any pictures of our image or our royal family, &c., and that no one do presume to do, without his license obtained, &c."

This grant was of great emolument to him, as about that time he engraved many small plates and sold licenses for others, with the heads of the king and royal family, which were then and are still used for counters. Simon Pass and other engravers were employed by him in these works.

Hilliard died January 7, 1619, and was buried in St. Martin's-in-the-Fields, Westminster (as appears by the register), in which parish he had a house. He made his will (register in Doctors' Commons) in the preceding December, leaving 20*s.* to the poor of the parish; to his sister, Anne Avery, 20*l.* of 30*l.* that were due of his pension; the remaining 10*l.* to his other sister; some goods to his servant maid, and all the rest of his effects, plate, jewels, rings, &c., to his son, Laurence Hilliard, his sole executor. But the greatest obligation we have to Hilliard is his having contributed to form.

SOCIETY OF ARCHITECTS.

THE Society of Architects met at Coventry on Friday last, and inspected various places of interest under the leadership of Mr. T. F. Tickner, M.S.A. The visitors numbered over forty and the party included several ladies.

Mr. Walter Thomas, of Liverpool, president of the Society, was not able to attend the excursion, but the party included Messrs. A. E. Pridmore (vice-president), Ellis Marsland (hon. secretary), A. A. H. Scott, J. C. Jackson, R. B. Tucker (hon. treasurer), C. H. Mead, W. J. Pulford, R. G. Bare (member of Council and hon. librarian), W. C. Williams (solicitor), C. McArthur Butler (secretary), Roland W. Lines, Fred Foster, T. Overbury and N. H. P. Milne.

The visitors first proceeded to Christ Church, where the history of the tower and spire of the Grey Friars Church was given by Alderman Andrews, and after calling at Ford's Hospital, and expressing admiration of the carved timberwork of that building, they took their way to St. Mary's Hall. The exterior and interior of the hall were thoroughly examined, Alderman Andrews and the hall-keeper, Mr. Welch, acting as cicerones, and the treasures of the muniment-room were exhibited by the town clerk (Mr. G. Sutton). The visitors found many points of interest and admiration in the building, and special commendation was passed upon the fine interior of the banqueting-hall, though the brilliant and highly ornate electroliers did not win the unanimous approval of the party. Some remarks were also passed upon the tints of the lower tiers of painted windows in the sides of the hall, crude productions which invariably offend visitors of any æsthetic taste

Subsequently the members and their friends lunched together at the Craven Arms hotel. A few complimentary toasts were proposed at the conclusion of the repast. Mr. A. E. Pridmore, who occupied the chair, submitted that of "The Mayor, Aldermen and Councillors of the Ancient City of Coventry," observing that they all very much regretted that the Mayor was unable to be with them, as they would have liked him to be. They were much indebted to Alderman Andrews for taking the lead and showing them in such an excellent way round the buildings of this historic city. He personally felt very much at home here, as he had the good fortune to have been born in the city, for which he had the greatest respect and reverence. They also had with them one of Coventry's best citizens, Alderman Loudon, who had been mayor on two or three occasions, and as a humble member of the Corporation of the City of London, he (the Chairman) was delighted to be in the presence of that gentleman. They wished the city every possible prosperity and success. Ribbons had had their time as an industry, watches had had their time, and cycles were still prospering. He hoped motor-cars and any other manufacture which the intelligence and industry of the citizens might establish would be prosperous and successful.

Alderman Andrews briefly responded, remarking that he took a great interest in the ancient buildings of Coventry, and he thought the Society of Architects would be very pleased at having made their visit.

Alderman Loudon also replied, and said he was sure such a body of gentlemen as the Society could not fail to thoroughly appreciate such specimens of ancient architecture as Coventry was able to show them. Although they were going to finish their visit "in the Workhouse," he was sure the building they had there would not be the least interesting or beautiful of those they had seen during their stay.

The Chairman afterwards said that the Society of Architects wished to tender their thanks to the Mayor and Corporation for permission to visit St. Mary's Hall and the muniment-room; to Canon Atkinson and Canon Beaumont, and the Revs. A. G. Robinson and F. M. Brodie for permission to visit St. Michael's, Holy Trinity, St. John's and Christ churches. They were exceedingly grateful for the kindness which had been extended to them as a Society.

Canon Atkinson, in acknowledging, spoke in enthusiastic terms of the beauty of St. Michael's, and mentioned that when Bishop Gore first walked down the aisle and was asked what he thought of it, he replied, "It is superb."

Before separating the company drank the health of Mr. T. F. Tickner, with complimentary reference by the chairman to the excellent programme which he had arranged, on the proposition of Mr. H. H. Richardson; and on the initiative of Mr. Ellis Marsland (hon. secretary) to that of "The Ladies," for whom Mr. C. H. Mead made a very happy response.

The company afterwards visited the Palace Yard, St. Michael's and Holy Trinity churches, and ruins of the cathedral, and the remains of the White Friars monastery at the workhouse. The remainder of the programme included tea at the Craven Arms, the viewing of Butcher Row, New Buildings, the ancient city gates, St. John's Church and Bond's Hospital, and departed for London at 7.35 P.M.

THE CHAPEL OF ST. MICHAEL AND ST. GEORGE.

THE committee of the new chapel of St. Michael and St. George in St. Paul's Cathedral are about to issue to members of the Order the following memorandum:—

In May of last year the committee appointed by the lamented Grand Master, the late Duke of Cambridge, reported to His Royal Highness that the generous offer of the Chapter of St. Paul's to place the chapel at the disposal of the Order had received the warm approval of the Sovereign and of the Prince of Wales (His Royal Highness having been among the first to offer a generous contribution), and subscriptions were invited from the members of the Order towards the cost of fitting up the chapel.

It was then roughly estimated that for an amount of, perhaps, 4,000*l.* this work might be completed in a manner worthy of the cathedral and of the Order.

The responses to this invitation hitherto received have been numerous, and in a good many cases very liberal. Of the 1,041 ordinary members of the Order some 410 have already announced their intention to contribute sums amounting in the aggregate to upwards of 3,100*l.*, and of this amount 800*l.* have been received and deposited with the committee's bankers.

The contributions thus promised will, however, need to be very considerably augmented before the fund can suffice for the equipment of the chapel in such a style as to make it one of the chief ornaments of the cathedral. The carved woodwork of the royal stalls and the other stalls and seats of the knights, which must be very handsome in order to be in keeping with the architecture of the chapel—one of the finest portions of Sir Christopher Wren's work in the cathedral—will, it is found, alone absorb the money at present promised; and other costly items will be a new painted window, the altar and reredos, the tablet bearing the names of the subscribers to the chapel fund (to be known as the founders), as well as the thorough redecoration of the whole fabric.

There will also be considerable expense in removing to other parts of the cathedral the present inappropriate window, the font, now occupying a large part of the floor space, and the marble bas-reliefs affixed to the walls, and any balance that may remain after the present work is completed will be of value for repairs, &c, hereafter.

The committee therefore confidently hope to receive at an early date further promises from the remaining (say 630) members of the Order of contributions amounting in the aggregate to not less than those already announced from those who have thus far come forward.

The chapel is of course not nearly large enough to seat at the same time more than a small proportion of the members of the several classes of the Order, and it has been suggested that, after reserving a limited number of stalls and seats for those knights who have offered, or who may offer, specially large contributions—so enabling the work to be completed without delay—the privilege of being the first occupants of the remaining stalls and seats shall be assigned, according to seniority, to those knights who also become founders, whatever the amount of their subscriptions may be.

It will be understood that the committee does not desire that members of the Order should feel themselves under any obligation to contribute larger sums than they may find convenient, and in some cases a limited amount has been promised in the first instance, accompanied by an offer to consider the question of increasing such contributions in the event of the receipts not meeting the expenditure when the work approaches completion.

It is intended to inscribe on a large ornamental tablet beneath the window the names of all contributors (or founders), not stating the amount given by each. These details will not, as at present proposed, be published or otherwise known except to the Sovereign and the Grand Master and the committee.

The Duke of Cambridge took great interest in this undertaking from its earliest stages, and at a very recent date closely examined the plans and drawings and signed the necessary agreement between the Chapter of St. Paul's and the Order of St. Michael and St. George securing to the Order the permanent occupation of the chapel under conditions satisfactory to both parties. The chapel thus becomes in fact, if not in name, a memorial of His Royal Highness's faithful services to the Order during his long tenure (53 years) of the office of Grand Master.

It is understood that the King has lately inspected the plans of the seating, the drawings for the stalls, &c., and as Sovereign of the Order has approved of what is being done.

MEMORIAL TO MR. F. C. PENROSE.

ON Saturday Sir Alma-Tadema, R.A., unveiled in the crypt of St. Paul's Cathedral a mural tablet erected by the Royal Institute of British Architects to the memory of Mr. Francis Cranmer Penrose.

Mr. Aston Webb observed that no greater honour could be conferred than that of placing the memorial in such a position as that which had been chosen, near a similar tablet to the memory of Christopher Wren.

Sir L. Alma-Tadema said that to Mr. Penrose we were indebted for much of what we now knew of the greatness and completeness of the Greek art of architecture. They all remembered with proud affection the devoted student of the glories of the Parthenon, whose kindly smile was always ready for those who loved the art of Greece. At the Royal Institute of British Architects they always called him their Athenian, and such he truly was, having given the greater part of his life to the study of the beautiful as revealed in the art of a people whose essential aim was the pursuit of plastic beauty. The art of the Athenians had been studied in their masterpieces for many centuries, but it was the patient seeker to whom that memorial had been raised who finally laid bare the principles of Athenian architecture. His sense of beauty and deep mathematical knowledge combined led him by minute and laborious research to discover what subtle laws governed the simplicity of the Greek ideals. His accurate measurements revealed to us how far the Greeks had gone beyond the use of the straight line into comprehension of the hidden curve. We now knew, for instance, that the lines of the base of the Parthenon were curved in order to appear straight, and that columns on the same plane were made different in size in order to create a more perfect and harmonious impression of uniformity. Penrose had reached his ultimate love and knowledge of perfection in architecture by measured stages. In early youth he had gone through Europe, studying deeply as he went. Starting as a lover of the Gothic and following up through the Renaissance, he ultimately found the source and goal of perfection in Athens. His wide erudition and scientific attainments had already made him a judge capable of passing judgment. They were indebted to him for more than could be acknowledged in the course of a few words. It was he who directed the strengthening of the Parthenon after the earthquake of 1894. His knowledge of astronomy led him to make valuable researches concerning the orientation of ancient temples; and work of the highest importance being done to-day in Greece by a band of young excavators, who had, among other achievements, caused Crete to yield her buried treasures, was directly due to Penrose, through whom the British School of Archæology at Athens came into being. But it was not in Greece only that he was called upon to enrich the world by his efforts and learning. In 1852 he was appointed surveyor to the fabric of St. Paul's Cathedral by Dean Milman, and to this charge he devoted himself with loving care for nearly half a century. He received the gold medal of the Royal Institute of British Architects in 1883, becoming President of that body in 1894 for two years. It was with thoughts of gratitude for his long and honourable life that they committed the memorial to the care of the Dean and Chapter.

M. Choisy expressed the feelings of regret and admiration felt not only by French architects, but by those of many other nations.

The inscription on the tablet is as follows:—"To the memory of Francis Cranmer Penrose, D.C.L, LL.D, Knight of the Order of the Saviour in Greece, for forty-five years surveyor to this fabric, President of the Royal Institute of British Architects from 1894 to 1896, antiquary to the Royal Academy; architect, antiquary and astronomer, a profound scholar, author of the 'Principles of Athenian Architecture,' whose distinguished services in revealing the refinements of Greek architecture are here commemorated by his professional friends and admirers. Born October 29, 1817; died February 15, 1903."

EIGHTEENTH-CENTURY ARCHITECTURE OF BATH.*

IN the sixteenth century Bath was but a small city and mostly contained within its ancient walls, which surrounded it roughly in the form of a circle of about 1,200 feet diameter. A century passed before the use of the mineral water brought the city into repute; but about 1680 much was done to improve the buildings, and the visit of Queen Anne and the Prince of Denmark in 1702 and 1703 caused a large influx of visitors. During the first twenty years of the century Trim Street, Broad Street, Green Street, part of Chapel Court, Westgate Street, St. James's Street South and part of Orange Grove were rebuilt, some of them being without the city walls. Widcombe House also belongs to this period (1727). It was now that the elder John Wood came to Bath and embarked upon large building schemes, such as St. John's Hospital, Chandos Buildings and Allen's town house, while John Strahan, of Bristol, laid out Kingsmead Square, Kingsmead Street, Avon Street and Beaufort Buildings. In 1728 Wood began Queen Square and Gay Street on the north-west of the city, some of his best work being found here. Prior Park, that magnificent mansion on the northern slopes of Combe Down, followed in 1735, the North and South Parades on the site of the Old Orchard in 1740-43, and several villas in the neighbourhood of the city, chiefly Belcombe Brook at Bradford-on-Avon in 1734 and Titan Barrow Loggia at Bathford, 1748. The original plans and contract for the latter are extant and are of extreme interest as showing how the specifications were incorporated with the plans, the description of the carrying out of each room being written on the plan within the walls of that room. The Mineral Water hospital was begun in 1738, and the Circus in 1754, the latter being the design of the elder Wood, though carried out by his son, who ably followed his father's work and who in 1767 began the Crescent, which was completed about eight years afterwards. It is not unlikely that Queen Square, Gay Square, the Circus and the Crescent were all part of a great scheme which the elder Wood had contemplated before his death in 1754.

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* A paper by Mr. Mowbray A. Green, A.R.I.B.A., read at a meeting of the Devon and Exeter Architectural Society.

In 1769 the younger Wood began the Assembly Rooms, an exceptionally well planned suite of rooms costing 20,000*l.*, a sum of money which would not cover much more than one-third of the cost of such a building at the present day. Alfred Street, Prince's Buildings and York Buildings were also the work of Wood, who died at Batheaston in 1781.

Of the buildings which belong to the latter part of the century, Milsom Street, begun about 1760, was probably the work of Robert Lightholder, who built the Octagon chapel there in 1767. The town hall and markets were the work of Thomas Baldwin in 1775, the banqueting-hall being, if anything, finer than the ball-room in the Assembly Rooms. In the last two decades of the century Baldwin built largely on the Pulteney estate on the other side of the river, and was also concerned with much of the design for the new Pump-room, the North Colonnade and the façade of the King's Bath having been erected by him in 1786 and 1788 respectively. He was employed in Cheap Street, Bath Street, where the front wall of the houses has a colonnade under, and the Cross Bath, and in other improvements consequent upon the City Act of 1789. Towards the end of the century building had increased enormously, and among the numerous architects and builders John Palmer is most conspicuous, he having designed St. James's Square, Lansdown Crescent, and many other buildings, while his façade to Kensington chapel in 1794 is one of his best works.

Generally speaking the styles of the century may be divided into three groups—that of the first twenty-five years, when the houses had gabled roofs and façades with large sash-windows surrounded by bolection mouldings, and when the interiors were panelled in wood almost throughout, and the rooms small and comfortable; the next fifty years, when the work was modelled upon the strictly classic Palladian manner, with rusticated basements, two-storeyed orders, a crowning cornice and parapets, with Mansard roofs, while the interiors became spacious and dignified and plaster-work was brought into general use; and the last twenty-five years, when the free manner of Robert Adam came into vogue, and the strong methods of the earlier work gave way to detailed and abundant decoration.

ART AND ENGINEERING.*

It is unfortunate that the progress of the arts and sciences cannot be in a uniformly forward movement. The world of the engineer is rapidly progressive. The world of the architect, excepting for a few slight tremors or weak pulsations, has been dead since the sixteenth century. The art of the architect rests solely upon the traditions of the past. The science of the engineer has no tradition of yesterday which may not be cast into disrepute to-morrow. We have music than which the world knows no greater which is modern. We have a literature of to-day. We have great paintings not yet dry on the easel. Sculpture is modern, but the last new great movement in architecture was in the sixteenth century. The architect and the engineer stand back to back. The architect has the ages for his vista; he sees the fifth century before Christ and the monuments of later epochs, but his vision is blinded and he sees no more after the sixteenth century. The engineer has his face turned the other way. His inspiration is the future. The past does not cloud his brain. May not the architect turn about face and move abreast with the engineer and live the life of his brother artists of the twentieth century rather than that of the earlier centuries which are in no way related to our life and time? The decorative and other artistic movements were never more plainly spread before us than now, and never were there greater draughtsmen than now. Nevertheless, the art of the architect has never been more firmly rooted in tradition than during these days.

The modern movement in engineering has been along the line of rational economy. The Egyptian and Grecian structures of early centuries did not take economy into account. Their work was the erection of forms with respect to appearance alone. The definite factor of safety was a quality unknown to the builders of these centuries. The Grecian builder did the artistic thing. He made a column the proper size and form to be beautiful, and was not embarrassed by mathematics or the materialistic spirit. The same condition existed with respect to the Roman construction, though not to the same extent. The Byzantine work came much nearer being good engineering than anything which preceded it. Columns and arches were used more nearly in an engineering spirit. But late in the tenth century and during the eleventh and twelfth there was another period when form was again the first consideration, and the engineer sat in the background. Walls were built heavy enough and thick enough to carry a load throughout their entire length when, in reality, the load was carried only on special points in that length. Columns were constructed with no serious regard for the economical disposition of material. The art element was dominant.

It is probable that during the thirteenth century the science of the engineer and the art of the architect were more nearly abreast than they have ever been since. Certainly the art of the builder was never so exalted as during that period. Certainly the science of the engineer and the art of the builder never joined hands more sincerely. Never in history have emotion and science expressed themselves with greater enthusiasm. There was a great and impelling reason for the sympathetic and hearty relation between the architect and the engineer. They were a people united in a declaration of independence. They were expressing their joy in the individual freedom of man which came as an illumination, as a new life, after the Dark Ages. They were the founders of a new democracy. It is certain that man never expressed himself in higher terms of exaltation than in the structures of that great period of the world's awakening. Through this motive the people were all united. Thus the engineer and the artist worked to a common purpose, and the work was great because the thought was great, because the struggle was great and the motive high. The dominant thought of our own time is materialistic, and hence the problem of uniting the interest of the engineer and the architect or artist is more complicated. The great work which had its origin in the thirteenth century only lasted during the continuance of the emotional impulse which created it. Within a hundred years it was on the wane, and in the fourteenth century had lost all the force of its initiative. During the fifteenth century in Italy and the sixteenth in France the Renaissance developed—a period of the revival of learning, not the revival of soul; a period with a spirit of research, not one of creation; a spirit of imitation, far removed from that of invention; a spirit of resuscitation, not one of production.

The engineering work of the thirteenth century was controlled by the same spirit of economy in the disposition of material that we seek to attain in our modern utilitarian structures. I have in mind particularly, though not solely and distinctively, the ecclesiastical structures. These, by the way, were not constructed merely for religious uses. They were the great meeting-places for the people and utilitarian as well as spiritual in their functions. As used for religious ceremonies nothing could be more practical. The material part of the construction was arranged and proportioned by great engineers. The disposition of material was controlled by economic considerations and the whole decorated profusely, elaborately, beautifully in the spirit of the times which created it. The engineer, the artist and the craftsman operated from a common high impulse. Here was a condition contributing more successfully and more wonderfully to a union of art and engineering than the world has ever known before or since.

I wish to tarry a few moments longer with the thirteenth-century cathedral by reading the following quotation:—"One great fact explaining the magnificence of these structures is that they were the work of a united community. The cathedral in any city belonged to every inhabitant thereof. Not only was there a most fervent religious spirit at the time of their erection, but there was but one form of faith. It was not necessary to build a dozen churches to accommodate a dozen different creeds. The cathedral was built large enough for the church-going population of a city or town and the entire community contributed to its erection. Thus, the cathedral of the thirteenth century represented religious faith, political liberty and the joy of artistic creation, a tremendous message nobly and fittingly and permanently expressed in enduring material."

While it is true that the artist and the engineer do not often get very close together, and while this fact is lamentable, it is also true that they are more intimately allied in certain parts of the world than in others and for varying reasons. In France the engineer and the art builder come closer together than with us, for the reason that their architecture along its art side is much more highly developed and on the engineering side much less so. Thus their coming together is through both positive and negative channels. The French engineer has all the mediums and all of the combinations of structural engineering at hand that we know. His craftsmanship is certainly better than ours, but his planning, his mental processes, are much less free, much less inventive and much less ambitious than ours. The only fact contradictory to this proposition occurs in the construction of the Eiffel tower Here is one of the world's greatest and most beautiful monuments, an isolated expression in the history of modern civilisation. It is essentially an engineering proposition, one involving no great difficulty, yet massive, courageous and successful. This is probably true because form followed function.

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* A paper by Mr. Louis H. Gibson, read before the Indianapolis Technical Club.

From the mere standpoint of craftsmanship the Frenchman is far and away the best builder known to the modern world. No work is done so thoroughly, none so carefully or painstakingly, and none is done with the spirit of pride that we find in France. I speak of craftsmanship in its simple and ordinary application, as related to fabrication, and not as related to planning or engineering. The Frenchman is a much better builder than the American. He is greatly superior as an artist, but he is by no means the equal of the present generation of American engineers. The American has a faculty of uniting his nerve and his arithmetic that is not known to any other nation. The American engineer has his courage and his mathematics within the same skull. Is he not hazardous at times? we may ask. We answer that question by asking another. Is he not successful? We have recently taken up steel-concrete construction. Sure, we are tardy enough about it. Some of the French and German patents, embodying general principles and certain details, had long since expired before we took it up, but when we did we executed work more complicated, more courageous and more successful than has been accomplished through this medium in any of the European countries. A great Viennese review published a description of the Ingals building in Cincinnati. In commenting thereon it said:—"The people of Germany and Austria have been pioneers in steel-concrete construction, but it has remained for the Americans to show us how to use it. They have shown their courage through the medium of their intelligence."

We all know that there were arc lights on the Avenue de l'Opéra in Paris fully 10 years before the arc-light was developed in America; but we also know that it was so expensive to maintain (10 dols. per light for a few hours each night) that it was cut out and discarded several years before Brush made his light. To-day one will find many beautifully installed lighting plants, not only in Paris but all over the world, employing American machinery. It is the American engineer who does things.

The cathedral was the characteristic, symbolic expression of the thirteenth century. The tall building, as we know it, is the symbolic expression characteristic of the nineteenth and twentieth centuries. In both examples form follows function. In that sense both are Gothic. It matters not if the tall office building is clothed with the tattered garments of the sixteenth or the seventeenth century, or from fragments and remains of the fifth century. The tall office building, with its intelligent framework of steel, no matter how it may be masked, must be Gothic in spirit if not in garment.

How can we expect to adequately characterise the great industrial progress of our time and the great engineering skill which has made this progress possible by the form, colour and detail of a Classic period? How may we expect to symbolise our new life with cold, Classic detail? Are we not as much entitled to a language for our architecture as for our painting, sculpture, music and literature? The language of these arts is the language of our time. Not so the language of the art of architecture Most of what we would call architecture is mere building. The architects are a trained body of conventionalists whose strongest impulse is to resist artistic progress. Inactivity deadens and dwarfs the human mind. These many years of conventional life have had a deadening and depressing effect upon the architectural mind. The architect's ornament, as well as his motives, have been a mere series of quotations, a series of interlineations—scraps and selections from here, there and everywhere, with and without quotation marks, with and without credit, though, for the most part, the architect has never been ashamed to say, "Here is a quotation from the Erechtheum, or here another from the Colosseum, or yet another from the Mosque of Sta Sophia," and so on down to the period of Francis I. Every effort to create, every effort to develop even new ornament, every effort to think in terms of our own time, develops strength, activity and capacity.

When I decry the lack of vitality, the lack of spirit in the architecture of to-day and say that it has no to-morrow, that it has no growth, that its spirit is old, there are those who will say, "How about l'art nouveau—the new art? What may it not do for architecture?" L'art nouveau as a new movement has spread through France, Germany, Belgium, has invaded Italy, and a manifestation of it is to be found in England. As we have not established a quarantine the disease has been felt by us (in America) as an infection only. We have developed nothing sporadic. It is, I believe, no more serious than an architectural irritant. L'art nouveau is impossible of success with us. Primarily because it is irrational. It is in no way related to the spirit or substance of our economies. It is entirely opposed to the spirit of modern engineering, and be it known that I believe the basic thought, the strong chord which will hold and control modern architecture will be the logical functional operations of the engineering mind. It is economic, it is materialistic. L'art nouveau is none of these. L'art nouveau is undisciplined and riotous.

However irritating may be the general form and lack of functional interest which we find in the new architecture there is yet hope in it. Signs of degeneration and decay in the world's architecture have always been first shown in its ornament. The integrity of large forms and general composition is preserved after ornament has shown signs of definite and chronic decay. Signs of life and hopes of a future are shown in the new and exceedingly beautiful ornament of this new art. The general structural and functional forms are bad enough, but the ornament and the colour are often so superb that for a time one forgets the ugliness of the mass. Taken by itself the ornament, pure and simple, which we find in the art nouveau movement is rarely and wonderfully beautiful.

Great architecture will come out of good engineering, good composition and beautiful ornament. Without having my mind brought to the subject by recent events, I wish to say that for a long time I have had it in mind that a new, rational and functional art would be developed by the Japanese. While it is true that they have been influenced very largely in their art by those great artists, the Chinese, in the use of form and colour, they are very highly developed not only as individual artists, but as craftsmen. They are yet much more highly developed along these lines than our race. On the other hand, the Jap is a hustler, and we like him because he hustles in our way. He comes to our schools, reads our books, studies as we study, is in sympathy with our institutions, wears our clothes, combs his hair as we comb ours, and, most of all, thinks in our way. He does all this, returns home and preserves all his racial characteristics. Withal he is an artist. May not this race, temperamentally so artistic and yet so expansive in their mental outlook, who are students all over the modern world, be able to unite modern engineering with new spirit? May they not be able to symbolise modern acquirement and material progress with modern engineering and the new art? Hitherto our race has not been able to do this. Our engineering is modern. We make the pace, but we clothe it in the ancient garment.

I would regard an opportunity as lost if I did not say here and now, in the strongest terms at my command, that there is no excuse for an ugly structure of any kind, be it a building, a bridge, a machine or any other object in which material and labour are brought together. A bridge nearly always is beautiful, a machine tool is never ugly. This is true largely because form follows function. No one ever thinks of adding material or labour (which is merely another way of expressing expense) to any of the objects specifically mentioned for the sake of making them expressively beautiful. On the other hand, we never find ugliness among any of them. It is in building and other monumental work that ugliness, clumsiness or lack of interest is so often dominant. In the building or the monument there is no excuse for ugliness. Good proportion costs no more than bad proportion. Harmony of colour costs no more than inharmonious colour. There is no more expense of time or material in a well-formed moulding than in an ugly one. There is no more expense attached to grace than to clumsiness. Beauty is a condition of mind, a condition of heart, and not one of pocket-book. Clumsiness and crudeness come out of the crude and clumsy mind. It takes no more time or material and no more power to cast a beautiful piece of terra-cotta or brick or metal than one which is clumsy, crude and ugly. It takes no more time, power, material or skill to stick a beautiful moulding through a wood-working machine than an ugly one. This general principle is true of every detail of every structure. Everything made by man might be beautiful without material consideration. The beautiful thing costs no more than the ugly thing. It is a question of mind and heart.

The mechanical engineer has a relation to art that is not appreciated by himself or understood by the public at large.

Some of us decry the use of machinery in the production of things artistic. It is affirmed by some that the artistic thought which is in the mind can only be expressed through the intervention of the tool which is in the hand. Certain grades of sculptural work and certain kinds of carving will always have to be done by hand. Yet it is true that many decorative motives can be produced and reproduced as well through the agency of the machine as through the agency of the hand. The influential factor is the impulse of the artistic mind which conceived the form which the machine produces. The machine is the great art democrat. It produces and reproduces art objects for the masses. It gives us colour, printing, weaving, needlework and many other forms of utilitarian and decorative objects. A form is artistic because it is beautiful and expressive and never because of its cost. We sometimes lose interest in a beautiful form because it is frequently reproduced. The Greek honeysuckle ornament has been used for twenty-five hundred years and its repetition has had no effect upon its beauty or its appreciation by the public. Its reproduction has been through the direct agency of the human hand, a hand often as mechanical and soulless as any device of the machine shop. If there were a thousand casts of Macmonnies's "Bacchante" each would be reproduced by mechanical means. Casting is essentially a mechanical process. Each one of the thousand would be as beautiful as one which exists. It is not necessary that some one's tired back should bend over the loom to produce the beautiful fabric. There should be more joy, more freedom in the wearing of the machine-made garment than one produced by an almost soulless human machine. The "Song of the Shirt" was written before the days of electricity and the sewing-machine. The machine will produce art forms conceived and planned by an artist, and it will produce beautiful objects at the same cost as ugly ones. Herein is the responsibility.

To produce art for everybody, the artist and the scientist, the artist and the engineer must sympathetically join hands. To the engineer belongs function and execution. To the artist belongs beautiful clothing and expression. Art, as engineers and architects know it, must be the decoration of functional form.

TESSERÆ.

Buttresses in Early Timber Churches.

THERE is a passage in Bede which certainly implies the existence of wooden buttresses in a wooden church. Speaking of the death of St. Aidan, A.D. 651, that it took place while he was leaning against a certain buttress of the church, "adclinis destinæ quæ extrinsecus ecclesiæ pro munimine erat adposita," he goes on to state that this same *destina*, whatever it was, on two occasions escaped conflagrations: "ab ignibus circum cuncta vorantibus absumi non potuit." The *destina* was afterwards transferred to the interior of a church. The English editor distinctly states that *destina* was "quod hodie Anglice buttress vocatur," and Ducange supports the same sense. It may possibly only mean some beam of the framework.

Payne's Method.

A real advance in water-colour art was effected by William Payne, better adapting it to the imitation of natural scenery and the effects of sunshine and of cloud; and, further, he reduced his practice to a system which could easily be imparted to others. He abandoned the use of outline with the pen, and his general process was very simple. Having invented a grey tint (known by the colourmen as Payne's grey), he used it for all the varied gradations of his middle distance, treating the extreme, as also the clouds and sky, with blue. For the shadow in his foreground he used Indian ink or lampblack, breaking these colours into the distance by the admixture of grey. In this he but slightly differed from the artists of his time, but his methods of handling were more peculiarly his own. These consisted of splitting the brush to give the forms of foliage, dragging the tints to give texture to his foregrounds, and taking out the forms of light by wetting the surface and rubbing with bread and rag. Having thus prepared a vigorous light and shadow, Payne tinted his distance, middle-distance and foreground with colour, retouching and deepening the shadows in front to give power to his work, and even loading his colour and using gum plentifully. He sought to enrich scenes wherein he had attempted effects of sunset or sunrise by passing a full wash of gamboge and lake over the completed drawing.

Spanish Cathedrals.

According to the usual arrangements of Spanish cathedrals external effect and symmetry seem never to have been studied. There is generally a parish church, called the sagrario, opening into the cathedral, and often a capilla real, having separate priests and services. At Santiago the nave is very long and the transepts considerable, all uniform and remarkable for having a triforium but no clerestory; the vault is very plain and the aisles are continued along the transepts. Like most Spanish churches the interior is very dark; the west doorways are most elaborate, within a modern porch. All Spanish cathedrals are arranged in the same manner, the coro with its stalls occupying a considerable portion of the nave, west of the transept and enclosed on three sides, thus greatly injuring the internal effect and blocking up the altar. The capilla mayor, or sacrarium, usually occupies only one bay eastward of the transept, and is enclosed with iron railing. The open space formed by the transept and centre of the cross between the coro and the altar is occupied by the congregation, and called "entre los dos coros" There is always an immense reredos or retablo behind the high altar, often gaudy and ugly, but sometimes, as at Seville and Toledo, of rich and beautiful wood-carving. There are two organs placed on opposite sides of the coro. This arrangement utterly precludes any general view of the high altar, and the large iron grating, often reaching to a great height, is usually closed. The wood-carving of the stalls is often very fine, though of Renaissance character.

Correspondence

[*The Editor does not hold himself responsible for opinions expressed by the writers.*]

Builders and By-laws.

SIR,—I am summoned by the London County Council to appear at the South London police court at 2 P.M. on the 30th inst.

1. For unlawfully commencing to alter and adapt a street or way without first having obtained the sanction of the London County Council under the Building Act, 1894, section 10 and 200 (1) (a).

2. Unlawfully commenced to form and lay out a street without having first obtained the sanction of the London County Council under the Building Act, 1894, section 7 and 200 (1) (a).

I shall be glad if any of your readers who have been similarly worried will kindly communicate with me, because I intend to defend the action of the Council.

During the whole of the time I have been in Fulham, now nearly four years, they have been a constant worry to me. The district surveyor has repeatedly complained about most absurd things. The roadway here is my private freehold property, with a gate which is closed every night and only opened by my caretaker during the day.

A few other persons have bought freehold land abutting on the same roadway with a right of way over the roadway, and I am now building a warehouse at the back of the house which fronts on the public roadway of Parson's Green, but such warehouse abuts upon my private roadway.

To me it appears most unfair that the London County Council has the power to prove itself a source of expense and worry to ratepayers without any just cause. Thanking you in anticipation.—Yours faithfully,

J. H. HEATHMAN & CO.

10 Parson's Green, S.W.: June 20, 1904.

GENERAL.

Messrs. Huon Matear & Simon have obtained the first premium of 500*l.* in the competition for the new Cotton Exchange, Liverpool; 250*l.* was awarded to Mr. Richard Holt; 150*l.* to Messrs. Grayson & Ould; and 100*l.* divided between Messrs. Gilling & Moorhouse and Henry Hartley.

The London County Council have decided not to seek powers in the next session of Parliament for the construction of a footway-tunnel between North and South Woolwich. The cost of constructing the tunnel is estimated at 145,000*l.*, and the annual cost of maintenance, including the supply of electric current to the lifts, at 2,500*l.* The present annual cost of the ferry is 23,000*l*, and by a readjustment of the services a saving of about 7,000*l.* a year will be effected.

The Italo-French Association in Rome, in order to perpetuate the recent visit of M. Loubet to Rome, has resolved to present the President with a large oil-painting representing his visit to the excavations about Trajan's Column in the Forum. All the figures represented will be portraits. The commission for the work has been given to the Italian painter, Signor Acrea.

The Committee of the Carlisle Town Council for providing a supply of water by gravitation from Geltsdale have decided to recommend the Council to accept the tender of Messrs. William Kennedy & Co., Partick, Glasgow, to carry out the work other than the construction of the large reservoir at Castle Carrock, for the sum of 120,377*l.* There were nine tenders. The estimated cost of the large reservoir is 71,000*l.*, and of lands, &c., 35,000*l.*, making the total expected cost 226,000*l.*

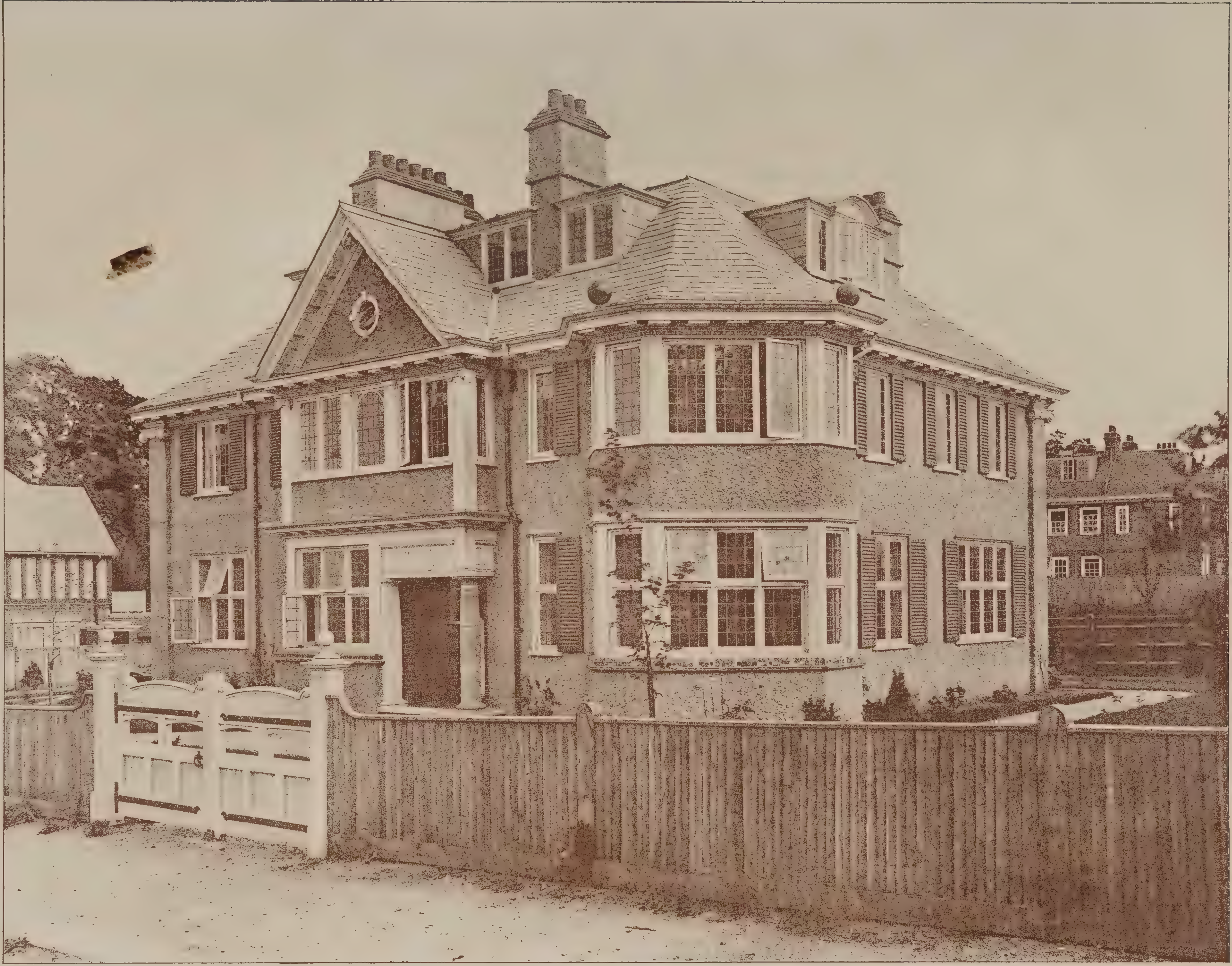
The Charity Commissioners have informed the Vicar of St. Saviour's, Dartmouth, that he would not be justified in paying out of a charity for "repairs to fabric" the cost of colouring the walls of the church and of alterations to gas fittings.

The Kelvin Science School, at Trent College, Derbyshire, will be opened on June 29. It has been so named by the special permission of Lord Kelvin, who is one of the subscribers to the building fund. The ceremony will be performed by Sir Douglas Fox, late president of the Institute of Civil Engineers.

The Westminster City Council will propose to the County Council the advisability of abolishing the name of New Tothill Street, Westminster, and that the thoroughfare should be renamed Farrar Street, in consideration of the late Dean Farrar's close connection with the premises in the street.

The Annual Excursion of the Edinburgh Architectural Association will take place to-morrow, June 25, and will be to Glamis Castle and Restennet Priory.

The Architect, June 24th 1904.



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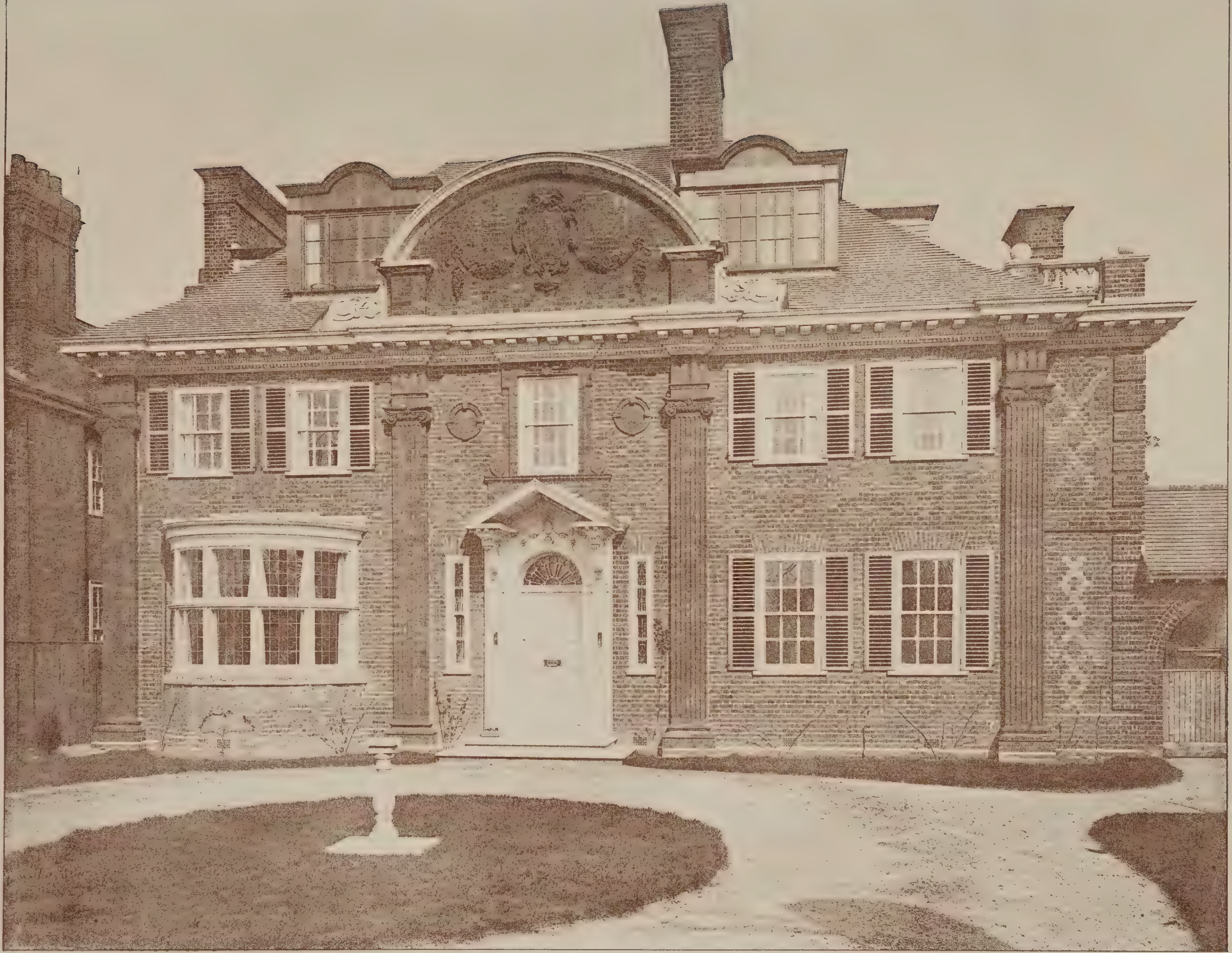

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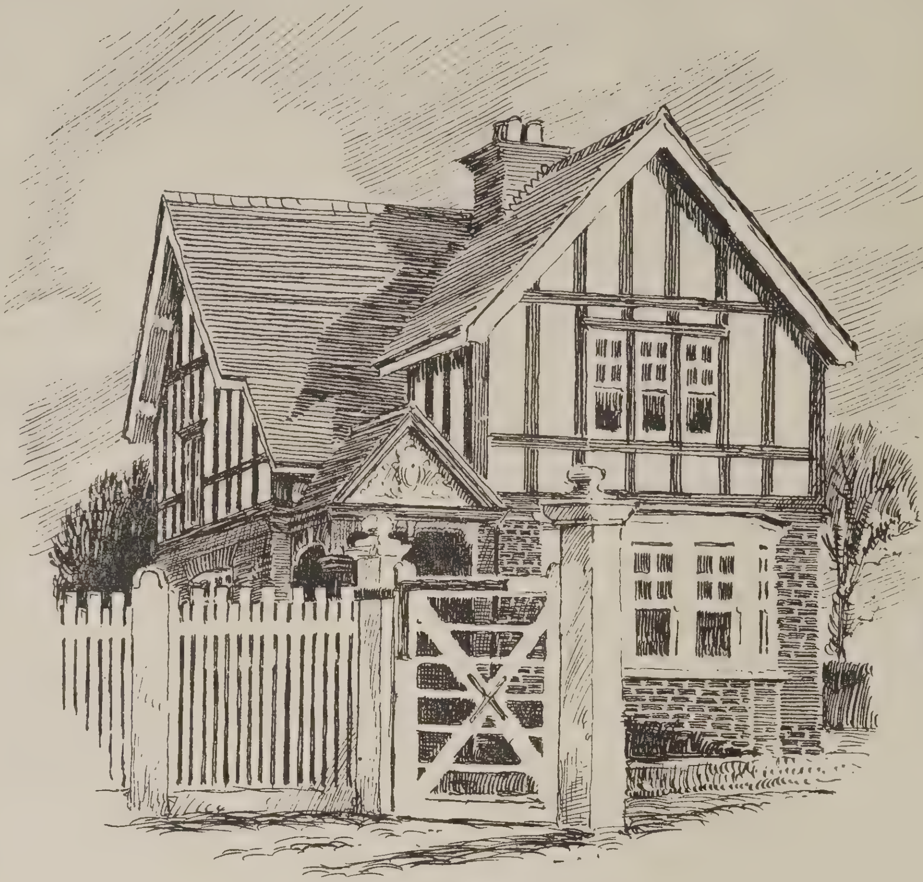

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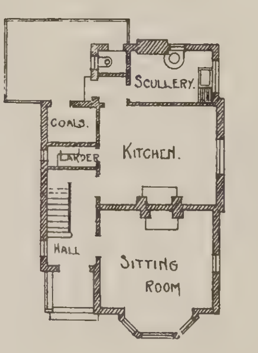

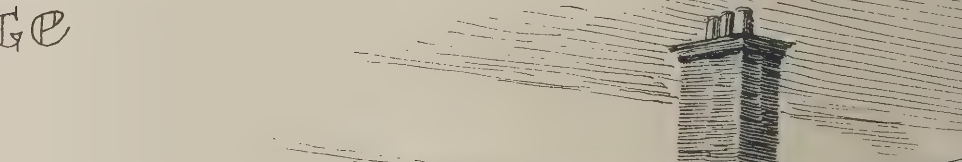

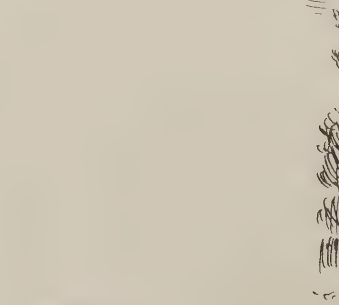

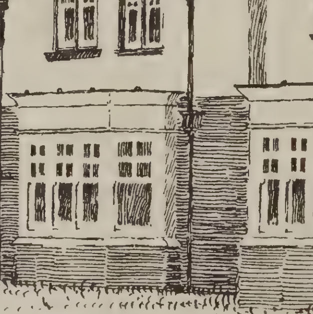

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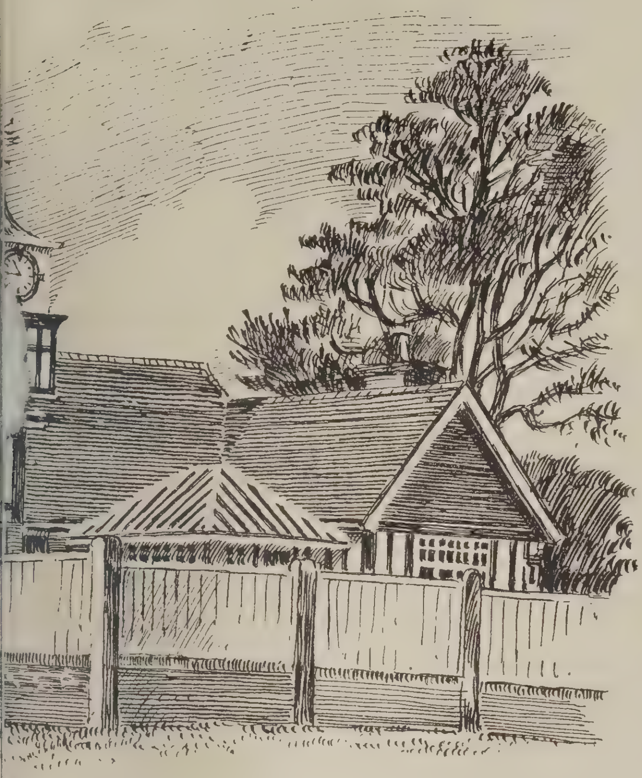

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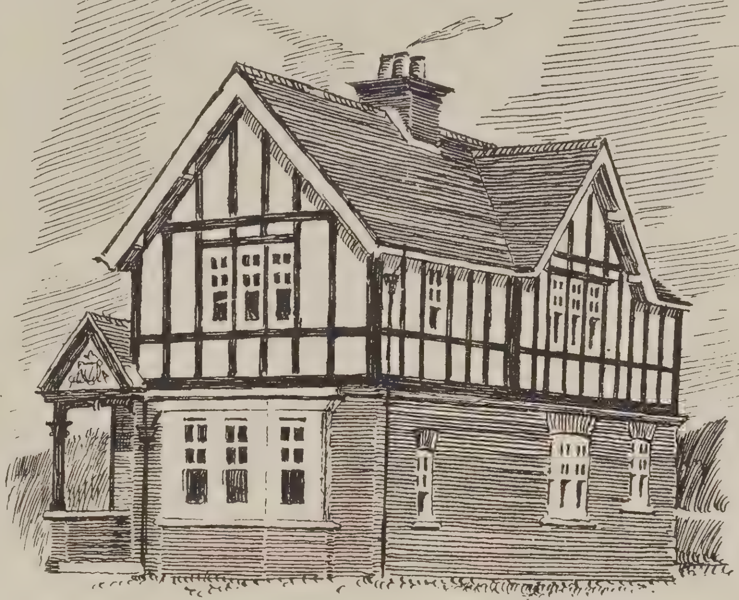

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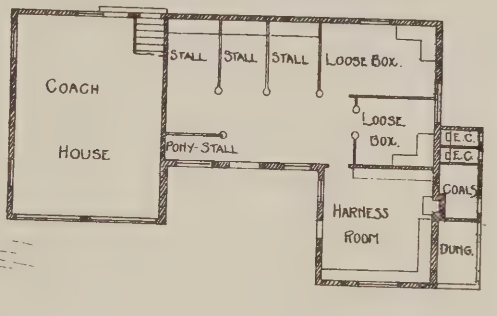

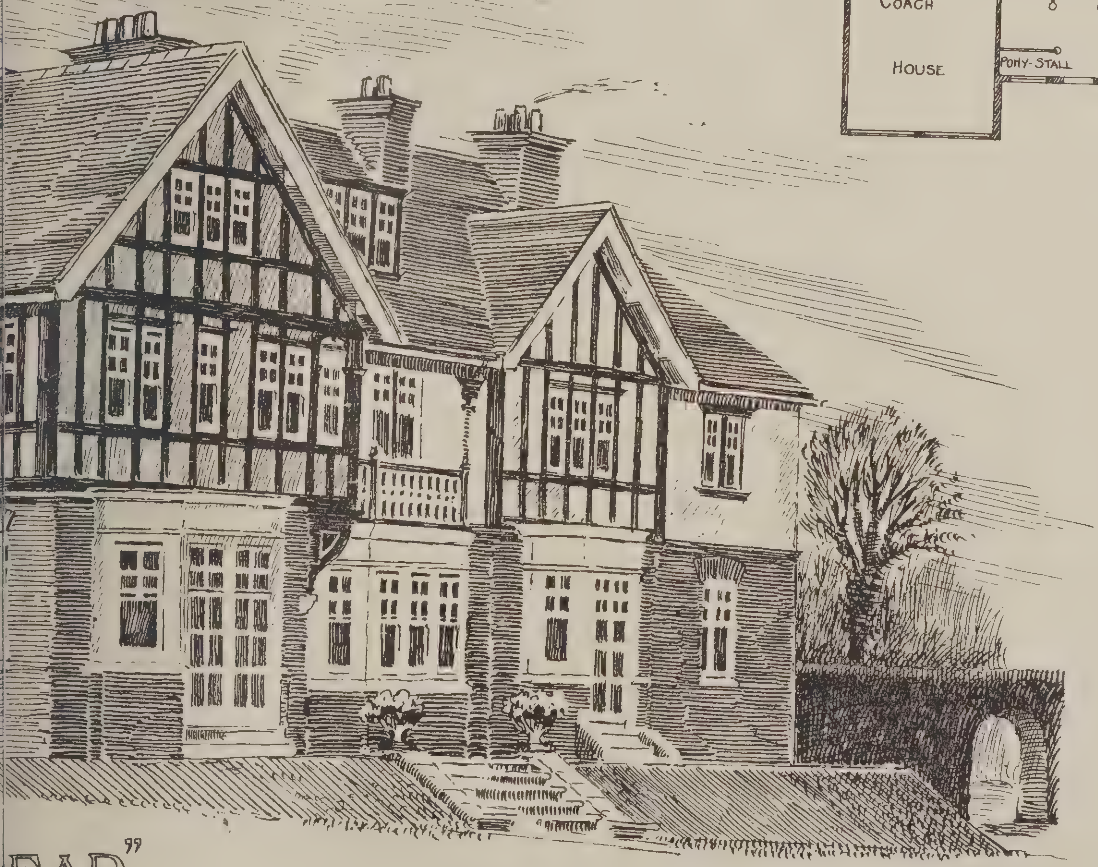

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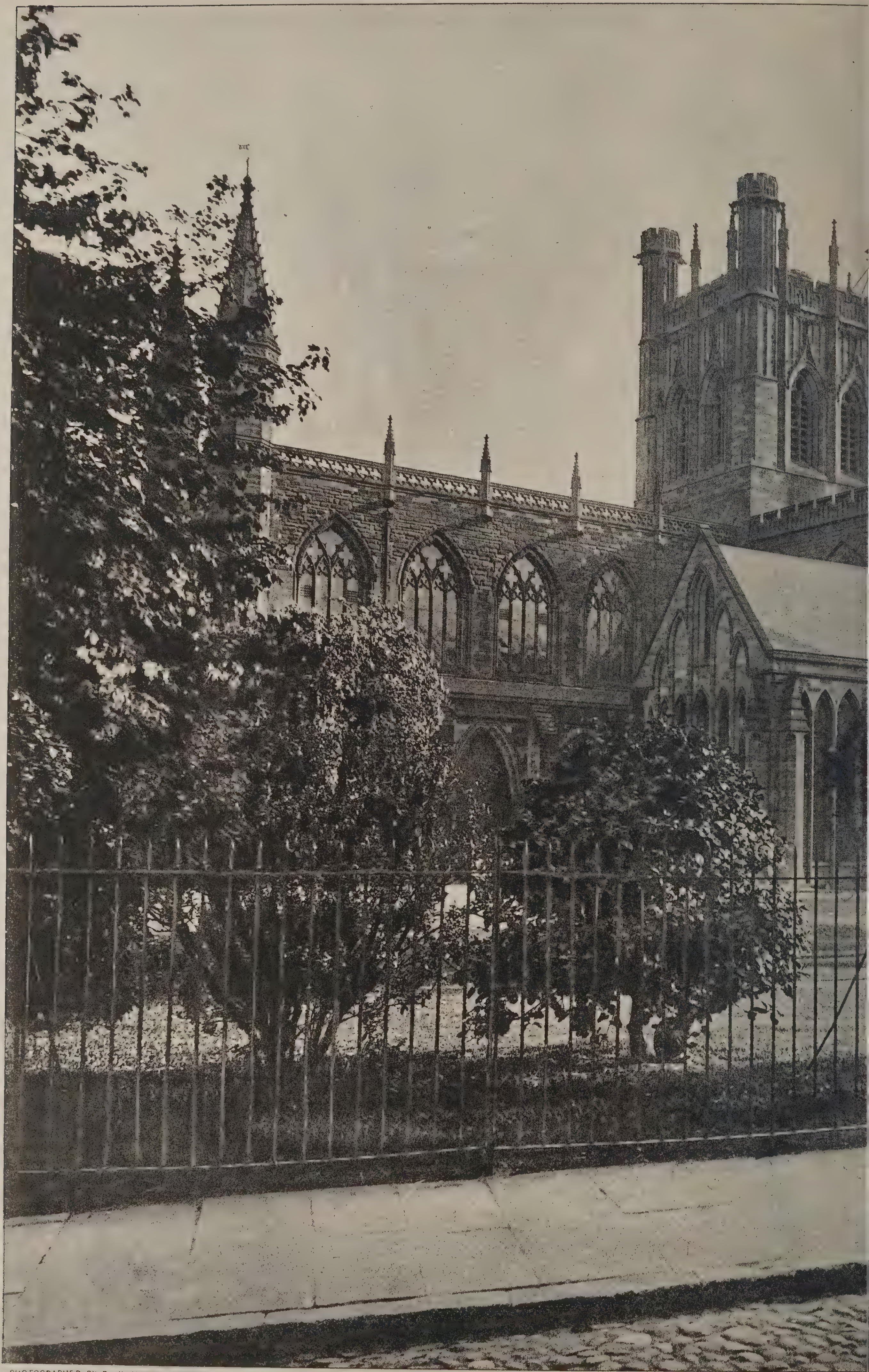

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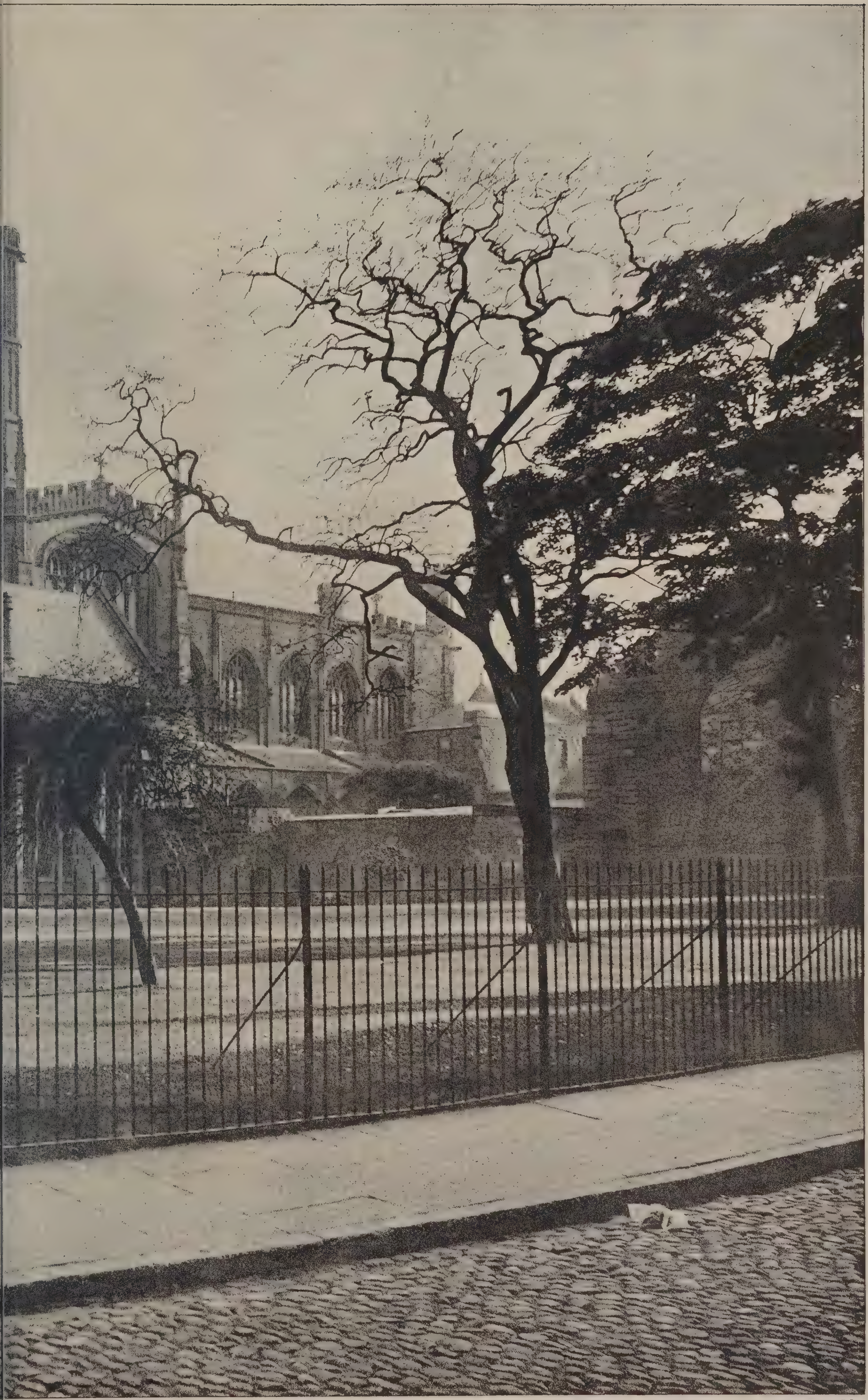

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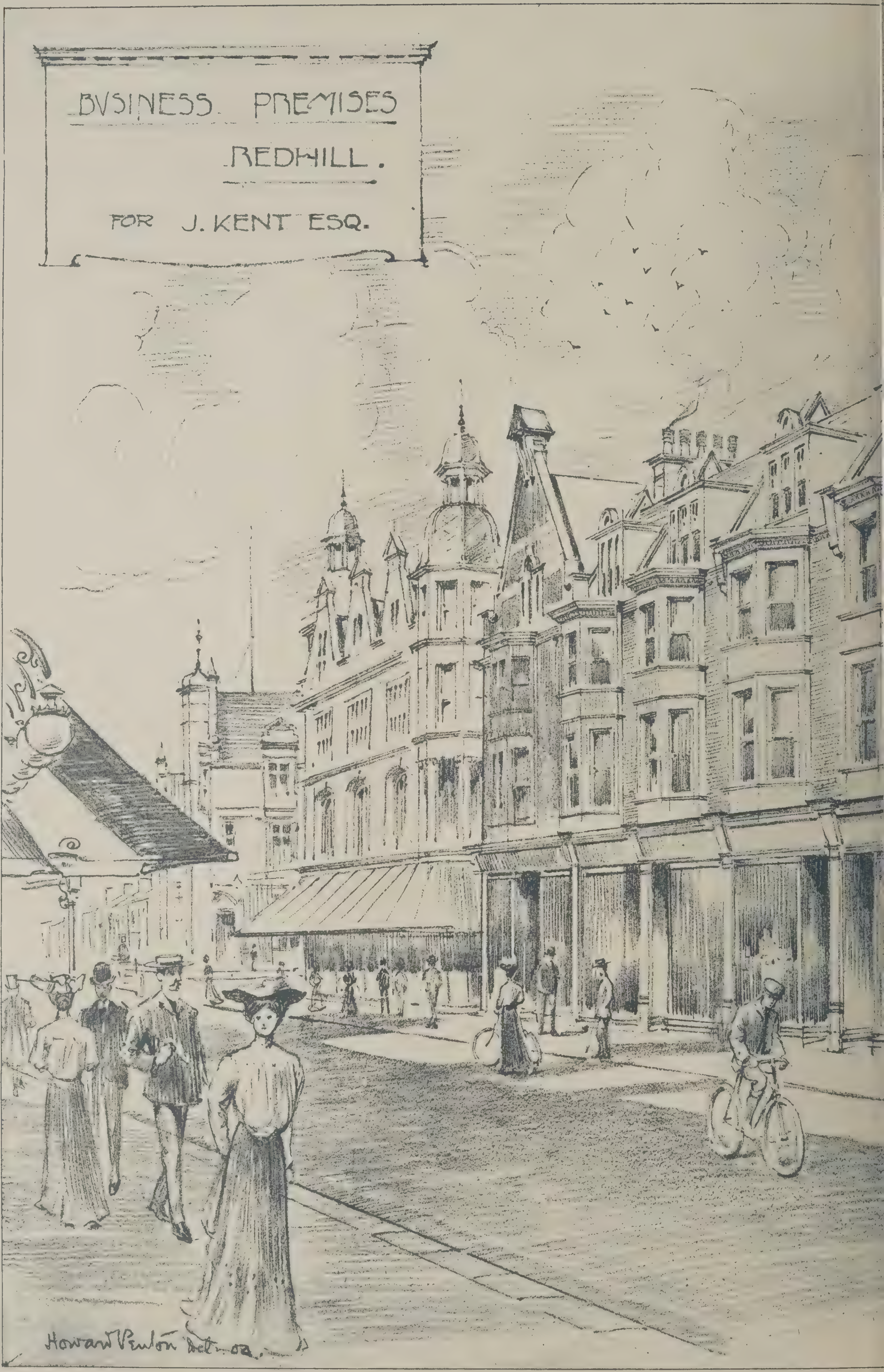
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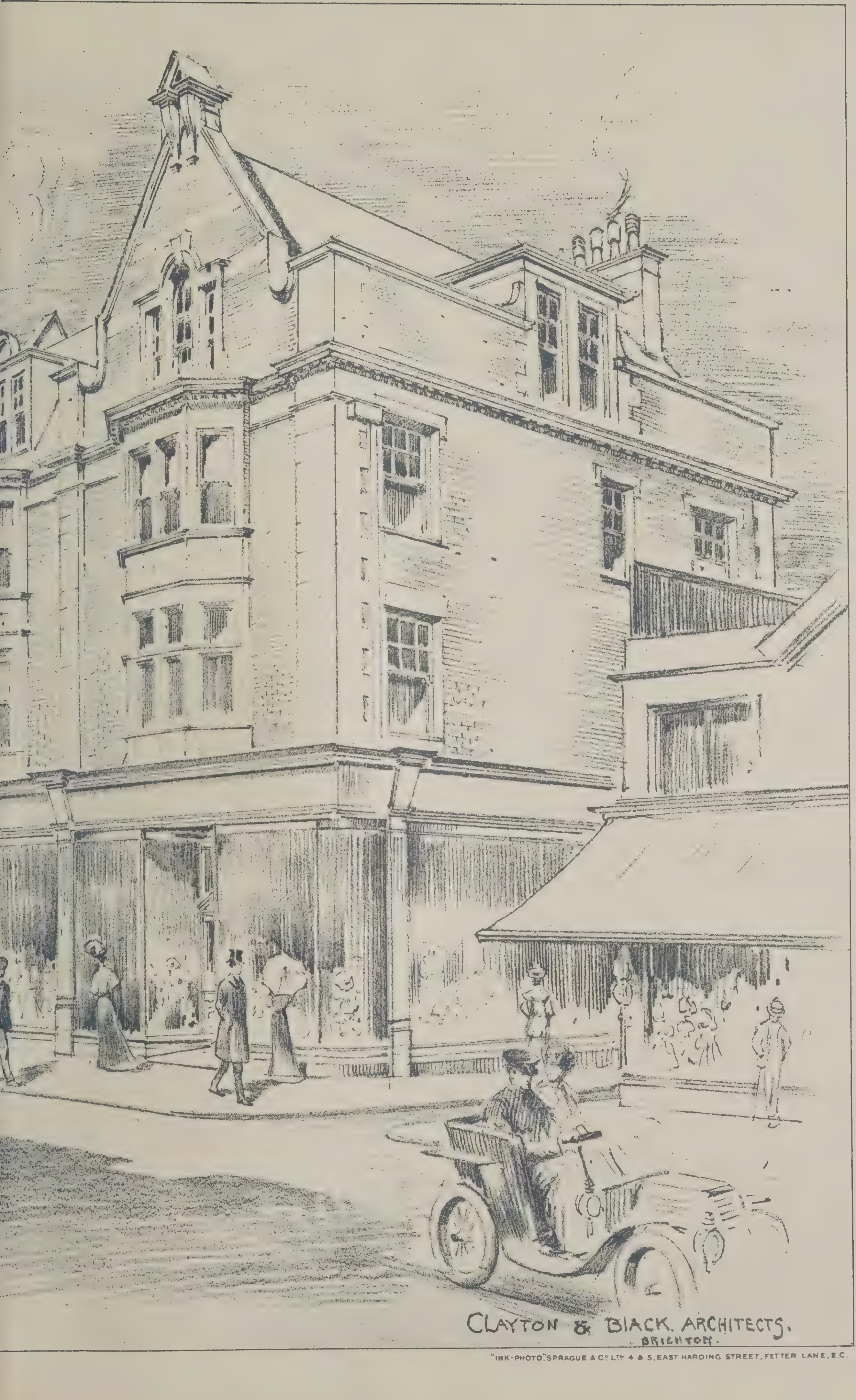

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